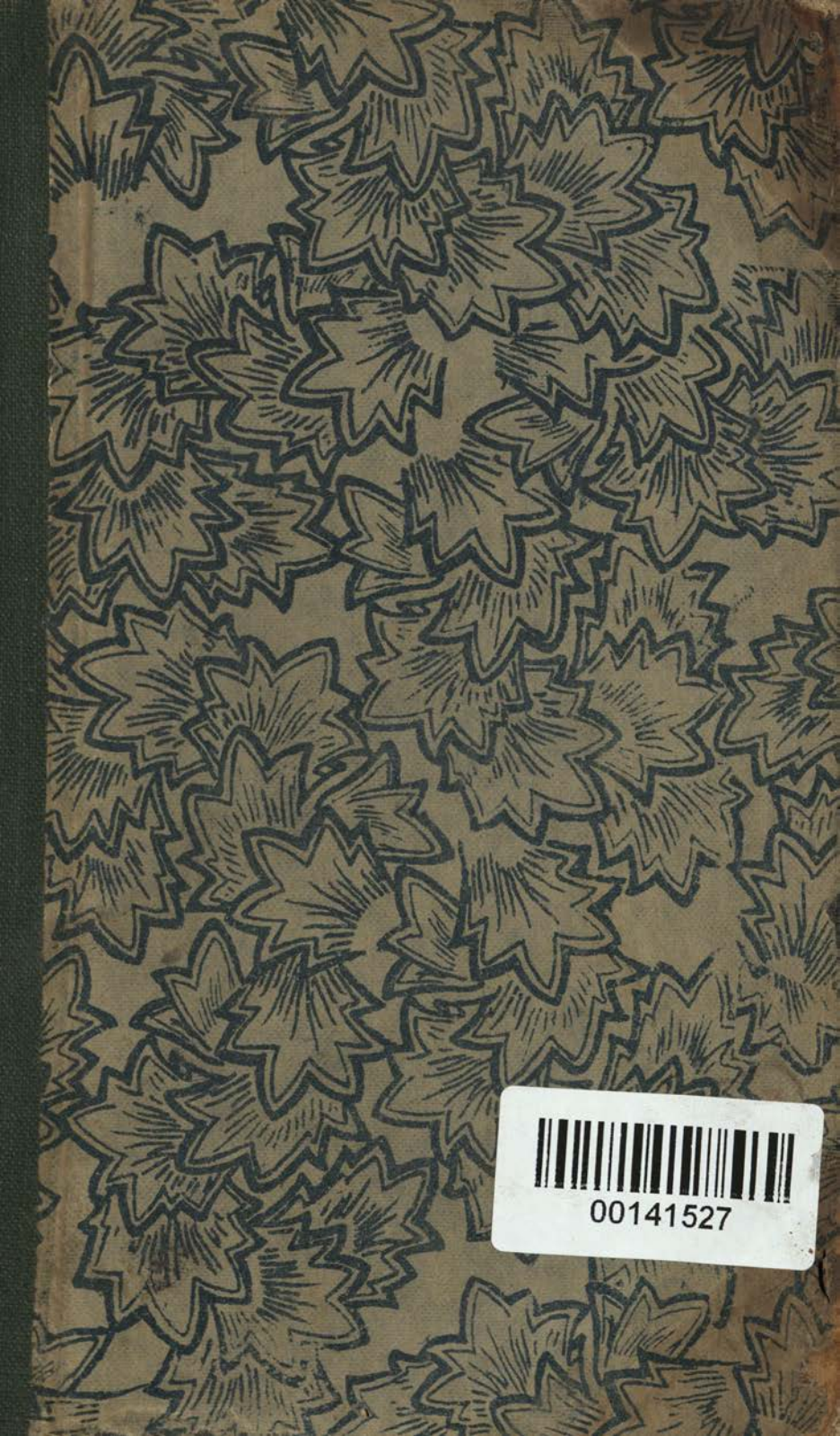
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LIFE

OF

THE REV. WILLIAM KIRBY, M.A.

F.R.S. F.L.S. ETC.

RECTOR OF BARHAM.

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BY

JOHN FREEMAN, M.A.

RURAL DEAN; RECTOR OF ASHWICKEN, NORFOLK.

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PREFACE.

To those who take an interest in the study of Natural History it is unnecessary that I should make any prefatory remarks to draw their attention to the subject of the following memoir. I feel, however, called upon to state the motives which have induced me to undertake a task that would seem to have been more befitting the pen of an author who had already obtained a name in the ranks of natural science.

My acquaintance with Mr. Kirby was, in the first instance, the result of accident; circumstances afterwards brought me into closer connection with him, so that, eventually, I enjoyed his intimate friendship and confidence. In the year 1841, my revered friend honoured me with a request that I would, at his decease, co-operate with his executors. Although I was aware that this request had reference to his papers and MSS., I was not prepared to find, as the event proved, that these were to be at my discretion without any limitation or instruction as to their disposal. Through the kind attention of Mr. Kirby's executor, William Rodwell, Esq., I became possessed of a

large mass of papers, consisting of letters, journals, and MSS. of various descriptions, which appeared to me calculated not only to throw light upon the personal character of my friend, but also, in no small degree, to recommend the study of God's works, as a pursuit eminently adapted for awakening a spirit of holiness and devotion. From these I determined, to the best of my ability, to draw up a brief but comprehensive sketch of Mr. Kirby's life.

The difficulties which I saw at first, vanished with the encouragement I met with from friends upon whose judgment I could rely, as well as from the kind and ready manner in which several friends of Mr. Kirby, with whom I had no previous acquaintance, supplied me with letters addressed to them by him. The insertion of these in various places will show how much I am indebted to those who kindly entrusted them to my care.

To my friend (whose name is inseparable from that of Kirby) William Spence, Esq., I have, in a more fitting place, expressed my inadequate thanks for the chapter which he has contributed: I cannot, however, omit this opportunity of expressing my thanks for the assistance which he has also afforded me in other ways.

To my kind friend and neighbour, the Rev. George Munford, Vicar of East Winch, I am greatly indebted for many suggestions and much valuable help in the arrangement of my materials. In making use of these materials, my aim has been to combine such as would bring forward as many characteristic features as possible. I have endeavoured, on the one hand, to preserve such a record of Mr.

Kirby's scientific labours as should prove not unworthy the notice of the Entomologist; but, on the other, to avoid leaving the impression that these were the only, or, indeed, the main, occupations of his life.

Heartily glad and thankful I shall feel to Providence for having been allowed to undertake this work, if those who knew Mr. Kirby personally can trace his character delineated in these pages; for then I shall have a well-grounded confidence that I have drawn a sketch which cannot fail to be profitable to all my readers who are desirous of embracing an opportunity, afforded by example as well as by precept, of tracking the path of knowledge and true wisdom.

ASHWICKEN RECTORY:
June 18, 1852.

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ERRATA.

Page 289, line 2, *for* "1806," *read* "1809."
" 296, " 19, *for* "genuine," *read* "generic."

LIFE

OF

THE REV. W. KIRBY.

CHAPTER I.

History of the Kirby family.—Joshua Kirby and his children.—William Kirby and the Meadows family.—Birth and early education of his son William, the Entomologist.

THE infinite and all-gracious Being who has adorned every part of the material world with signs and tokens of his goodness, has not left the intellectual and moral condition of its inhabitants without an impress or mark of the same unerring wisdom and benevolence. Among other evidences of this truth, we may observe, that the natural desires of men frequently call into exercise habits of thought and action, the expansion and development of which contribute much to the general welfare of society. How many benefits spring from a desire for a good and fair reputation! how circumspectly does a man bend his steps to attain this! and with what jealousy does he preserve and treasure it! Nor is this a desire which actuates him merely in the days of his vigour and strength, but one which accompanies him to the very grave: and all this circumspection and care, far from terminating, as to its good effects, in himself, are beneficial in a thousand ways to those who lie within the sphere of his operations and influence; while the good name itself, which has been thus sedulously cultivated, descends as a gift and heir-loom to his latest posterity.

To read, and to contemplate the lives of those that are passed away, to trace how they obtained respect in life, and to ascertain why the love which shone upon them here still clings to their memory—for various reasons besides the considerations just alleged—must not be regarded as a fruitless task, or an idle pastime. An excellent writer has said, "When we think of the virtuous character, how laboriously it is reared, and how slowly it advances to perfection; but at length, how indefinite its capabilities of power and of enjoyment are after this education of habits has been completed,—it seems like the breach of a great and general analogy, if man is to be suddenly arrested on his way to the magnificent result, for which it might well be deemed the whole of his life was but a preparation; having just reached the full capacity of an enjoyment of which he had only been permitted in this evanescent scene a few brief and passing foretastes. It were like the infliction of a violence on the continuity of things, of which we behold no similar example, if a being so gifted were thus left to perish in the full maturity of his powers and moral acquisitions. The very eminence that he has won we naturally look upon as the guarantee and the precursor of some great enlargement beyond it,—warranting the hope, therefore, that death but transforms without destroying him, or that the present is only an embryo or rudimental state, the final development of which is in another and future state of existence."*

Again: it is especially interesting and instructive to trace how laudable desires of being of service to the present, as well as to future generations, can be realised by the means placed within the reach of the many; while, for the same end, the magnificent and bounteous gifts of fortune, as they

* Chalmers' Bridgewater Treatise, vol. i. p. 163.

are wont to be esteemed, are frequently found to be totally inadequate. It is a pleasing task to point out the effect, enduring for generations, which is produced by industry,—by the cultivation of intellectual talents and of moral rectitude; to watch how self-respect, combined with respect for others, succeeds in its object, while ambition, backed by power and riches, fails; to see how the ardent desire of fame, when working upon a wrong principle, terminates in oblivion, or even stamps the name it would have crowned with glory, with indelible characters in the annals of disgrace.

In these pages we shall eventually see the life of one brought to a close which sheds a brilliancy on the name of his family, which, it is not too much to say, can never be dimmed, so long as the glory of the Creator is traced upon earth as it now exists.

There can be no doubt that if a true and genuine character is to be depicted, it is necessary to take into consideration the accidents of birth and childhood, as well as those of subsequent periods. After a very careful investigation of the history of the Kirbys, I have become convinced that there are unusual marks of coincidence of character in different branches of the family; and am persuaded that they endeavoured to mould themselves after former patterns of excellence with which they were familiar. The letters which remain, show beyond a doubt, that one great and prevailing wish, though always confined within proper bounds, was to recover a position in society of which tradition told them that, by some untoward events, they had been deprived. This must be my apology for dwelling at length upon the history of others than the immediate subject of this Memoir. I now proceed to the early records of the Kirby family.

The first place of their settlement, and subsequent

residence for many generations, was Kirby Stephen, in Westmoreland, the name, according to ancient spelling, being Kirkby. What circumstances induced any of the family to travel southward, I am unable to say; but John Kirby, an officer in the Royalist army in the time of Charles I., came to reside at Halesworth, in Suffolk. He is mentioned in the list of those who compounded for their estates in the time of Oliver Cromwell, his composition being £36. 5s. 4d., as appears by Dring's "Catalogue of Lords, Knights, and Gentlemen, who have compounded for their Estates." His son married the daughter of a farmer at Spexhall, near Halesworth. The family of his wife was in all probability respectable; but this did not obviate the objection which arose on account of inequality of rank and station. How great the disparity was is of no consequence; but it is very certain that, on account of this alliance, he was disinherited and cast off for ever by his father. How far he was enabled to struggle against poverty, to which by birth he was not an heir, or to what amount of misery he had to submit, would be of little interest to ascertain, were it even possible. His children and immediate descendants gained an honest livelihood by their own hands,—some being shoemakers, and others rope and yarn spinners. The first who came at all into public notice was John Kirby, born in the year 1690. By letters and family papers, we can trace that he was by calling a surveyor of land: whether this was the first business he attempted is not quite certain, but it was one in which a good commercial education, combined with perseverance and integrity, were necessary to ensure success. He resided at one time at Orford, in Suffolk, where he kept a school, and was also employed at the same time in making surveys, and drawing plans of the extensive marshes which stretch from Aldborough to the mouth of the Deben, maps

of which still exist. After a time he removed to Wickham Market, and followed the occupation of a miller. In the year 1735 he published the "Suffolk Traveller," a work which obtained great notice in its day, and is even yet regarded as a memento of a persevering and intelligent man. He also published a map of the County of Suffolk, which was subsequently edited by his sons, Joshua and William: this map was from his own survey, very accurate, and well executed.

He had five sons, John, Joshua, William, Francis, and Stephen. The eldest was brought up as a lawyer, and was called to the bar: that he was amiable in private life, and assiduous in his profession, appears from letters which remain. One is upon the death of his brother Stephen, who was studying with him. The father writes—

"Wickham Market,
"June 10, 1741.

"My Dear Son,—I had yours of the 13th instant, which brought me the unwelcome news of the death of my dear son Stephen. I cannot tell how to express myself to you with thanks enough for the care you took of your brother; but, alas, all too little where God has not ordained life: however, it gives me some comfort that he had your company and care in his last moments. This morning I also received a letter from son William, wherein he informs me of the place of his interment, and that your kindness extended beyond the grave, by purchasing a spot for his resting place. Your mother and myself were inconsolable upon receipt of the unwelcome news, but endeavour to make ourselves easy, for since he is dead, why should we weep immoderately? We shall go to him, but he shall not return to us. I can at present say no more.—Recommending you both to the merciful protection of heaven, I am,

"Your loving father,
"JOHN KIRBY."

From a letter addressed to his son Joshua, relating to this subject, we learn that the sons were occupying a higher walk of life than that allotted by Providence to

their father. After many sentiments of piety and christian resignation, he speaks of wearing mourning as being incompatible with his rank, and explains the reason of his not adopting it, alleging that the gentry would not respect him if he did; he approves, however, of his sons conforming with the customs and requirements of their station, and adds, "that he shall forego the pleasure of appearing amongst them during the season of their wearing the sad tokens of sorrow and respect, that his conduct might not look singular, contrasted with theirs:" he farther expresses a wish that hat-bands and gloves, as being suitable to his condition, should be the only marks of outward grief attending his own funeral. This may appear a trifling incident, but it is not in reality unimportant, as it tells of his good common sense, and that those who like himself occupied the middle ranks of society were not at that time accustomed to clothe themselves in general mourning upon the loss of their friends: moreover, much of that modesty and propriety for which his grandson William was so remarkable, may doubtless be in some measure traced back to the impressions transmitted through his father. Another letter tells us of the progress of his son John in his profession: Sir Richard Lloyd, his son's friend, congratulating him on his appointment as under-treasurer of the Temple, says, "the gentlemen that nominated you cannot and will not repent; for if honour, honesty, and stedfastness are required, they could not have pitched upon so proper a person as yourself, for I can answer that every one of those qualifications are thoroughly grafted in you."

The emoluments and newly acquired honours, however, were not long enjoyed, as John Kirby died, unmarried, in 1750.

Joshua Kirby, who was born at Parham near Wickham Market, in 1716, the second brother, is described in many

biographical works as having been a house and sign painter: but this was a mistake, and may have arisen from his having described himself as a painter in the title-page of one of his works; it is very certain, however, that he never followed the trade. At a very early period of his life he formed an intimacy with the celebrated Gainsborough. Circumstances of locality may have brought them into contact, but whatever the commencement may have been, the friendship proved to be one of no ordinary character; they mutually admired each other's talents, and found much gratification in discussing the beauties of the scenery which they visited together, as well as in studying the best means of making others acquainted with topics which afforded them such unmingled pleasure and delight.

One of the first works which Joshua Kirby is known to have executed, was a drawing made from the sign of the Inn at Scole in Norfolk,—one of those buildings which have nearly passed from the region of reality into the traditions of the past. This sign was remarkable for its strange ornaments, the carving of it having cost no less a sum than £1057; it was erected at the cost of John Peck, Esq., merchant and citizen of Norwich.* His father had been

* Besides the drawing for the sign, he also made one of the house at Scole, and they were both engraved on two large plates by Fossey in 1740. The sign is said to have been the work of one Fairchild, and was erected about the year 1655. A ballad, published in 1661, describes it as having had on it figures of Bacchus, Diana, Justice, and Prudence, "a fellow that's small with a quadrant discerning the wind," Temperance, Fortitude, Time, Charon, and Cerberus. The arms about it were those of Norwich, Yarmouth, Duke of Norfolk, Earl of Yarmouth, Bacon of Garboldisham, Hobart, Cornwallis impaling Bukton, Teye, Thurston, Castleton, and many others. Peck's arms are arg. on a chevron ingrailed gul. three crosslets pattee of the field; his wife's are arg. a fess between two crescents in chief, a lion rampant in base gul.

urged by Sir Joseph Ayloffe* to copy monuments and arms, and to take views of remarkable buildings in his tour through Suffolk; and in fartherance of this design, Joshua Kirby made a set of twelve drawings, and published them in 1748, which are yet occasionally, though rarely, to be met with. Although his intimacy with Gainsborough tended to increase his natural taste, yet he does not appear to have devoted his powers to landscape painting; but his pursuit of knowledge in various branches was very ardent, and when tied by business or duty, he would curtail his hours of rest to the smallest possible amount. That he was a man of deep and fervent piety is fully testified by his general bearing, as well as by his correspondence, and such was the estimation in which he was held by Gainsborough, that the latter requested that whenever he died, his body might be laid by the side of that of his friend Joshua Kirby.† Although the progress he made in landscape painting added but little to his fame, yet for his study of Perspective, and for his deep investigation of the principles upon which that science is founded, he was justly celebrated. After a time he was introduced to the Earl of Bute,‡ and brought by

* Sir Joseph Ayloffe, Bart., of Cranfield, Sussex, V.P.A.S. and F.R.S. died at Kennington, in the 72d year of his age, and was buried at Hendon, May 1, 1781. He was a patron of Mr. Kirby, and is said to have had in his possession several drawings made by him, besides the twelve which were engraved and published. The extensive knowledge of our national antiquities and municipal rights will place Sir Joseph Ayloffe in the first rank of British antiquaries.

† This request was complied with,—Gainsborough and Joshua Kirby being buried side by side, in the churchyard of Kew.

‡ John Stuart, third Earl of Bute, and First Lord of the Treasury in the Reign of George III., had the merit of being a liberal patron of men of genius, both in literature and the arts. Among others, Dr. Johnson was indebted to him for a pension. And George and Robert Adams, the Architects, were employed and magnificently encouraged by him: the latter built the splendid mansion for the

him before the notice of the Prince of Wales, afterwards George III., by whom, talents which too often are allowed to perish in embryo, were duly appreciated, and not only allowed their full growth, but fostered and nurtured in no ordinary manner. Encouraged by the kind patronage so liberally bestowed, he undertook, after much careful study, to write a treatise upon Perspective; and so greatly did he improve the art by his clear and simple exposition of its rules, that upon the publication of the work he was requested by the Society of Artists to read lectures upon the science. This book might with great propriety have been claimed as an original work, but having in the course of his research been indebted for some hints to Dr. Brook Taylor, he gave him too much of the credit, by affixing his name, and calling it "Dr. Brook Taylor's Method of Perspective made Easy."

In 1759, he removed to Kew, having, through the friendship of the Earl of Bute, obtained the important office of Comptroller of the Works then in progress. In the year 1761, he published an original work with a title somewhat similar to the former: "The Perspective of Architecture upon Dr. Brook Taylor's Method:" it was magnificently printed at the expense of the King, and honoured by a plate designed by His Majesty. In one part of it there is a lengthened description of the Architectonic Sector, the invention of the Earl of Bute. The onerous labours of Kew did not wean him from his favourite pursuit, neither did the distinguished patronage by which he was surrounded lead him to forget his friends, whom he seemed destined to outstrip in the race for this world's fame. He writes thus to his brother William :—

Earl, at Luton Hoo, near St. Alban's, and the former constructed the Architectonic Sector, which is stated to have been invented by his Lordship, and is mentioned in the text.

"Kew, Nov. 22d, 1760.

"Dear Brother,—I was informed by the receipt of a fine hare that my brother was in the land of the living, and had not altogether forgotten me. I very heartily thank you for the kind and acceptable present.... You have heard, I apprehend, that I am made President of the Society of Artists of Great Britain. It is an honour unexpected and undeserved. It is very like dressing a man in a fine robe, and then fixing a weight to the train of it, that he with all his abilities is but just able to tug after him. I am placed at the head of a respectable but divided body of men; God grant that I may introduce that kind of union amongst them that I sincerely wish could be effected throughout every part of this divided and distracted kingdom. You cannot imagine how fully I am employed: I now verily believe, that neither my mind nor my body will find any rest, so long as I continue so unfashionable as to act upon honest and generous principles.—I am, my dear brother,

"Yours very affectionately,

"JOSHUA KIRBY."

What the peculiar difficulties were to which he refers, it is unnecessary to enquire; but he had not to brood over these or other troubles in solitude, as he married a lady from Framlingham in Suffolk, whose name was Sarah Bull. Of this marriage only two children lived to years of maturity, Sarah and William. The son inherited or imbibed no small share of his father's taste and talent, and enjoyed also the same patronage. In the spring of 1768 it was arranged that his studies should be advanced and his taste perfected, by forming an acquaintance with the works of those master minds of art and design, which are to be met with on the continent of Europe. The private purse of Royalty supplied the means for undertaking so expensive a journey as that to Italy must have been; and the pleasing anticipation with which the aspiring genius closed with the gracious offer, is well conveyed in his own letter to his uncle, in which he says, "I need not point out to you that the reputation of scientific geniuses, especially of architects, does as greatly depend on their having searched the schools

of the ancients in foreign countries, as that of a physician does on having had an University education. It will be likewise unnecessary for me to say that I have a spirit of emulation in me, such as not to miss any opportunity that offers to gratify it, or that has a tendency to raise me in the opinion of the world; so great is my inclination, so beneficial the project, and so advantageous the consequences of searching the remains of antiquity in Italy, that I rejoice to say, I have received a most gracious permission to extend my travels to Rome; and my wife and self set off next week for France."

His stay in Italy extended over a period of from two to three years, during which his portfolio was enriched, as well as his mind greatly enlarged upon the subject of architecture. In June, 1771, he again takes up his residence at Kew, and speaks of bodily ailment; and of a disorder which caused him much suffering, but hoped that change of air and scene would soon remove it; for which purpose he contemplates a visit to his relatives in Suffolk. In the month of June his father made the following short communication to his uncle:—

"Kew, July 13th, 1771.

"Dear Brother,—With a heart overwhelmed with grief, I inform you that my dear son fell down this morning about 8 o'clock before his own door, and instantly expired. You know what we all of us must feel on this trying occasion.—I am,

"Your affectionate brother,

"JOSHUA KIRBY."

The reading this hasty announcement, made almost before the tenement of clay was cold, and before the departure was well realized by the agonized father, is calculated to produce, even at this distant period, sensations of awe and emotion: just launched fairly into life, returned from a foreign country, laden with information which would have

amused and gladdened his friends,—with a mind stored with knowledge, which he evidently intended to use for the good of science, and for the advancement of his name,—all was bright and promising before him, and he, the only son, must have been possessed of a rare brilliancy and lustre in the eyes of his parent; we cannot wonder that emotion stopped the pen, and forbade more than the bare announcement of the melancholy fact. A royal road to fame was indeed open before him, but a wise and overruling Providence did not allow that he should travel far upon it. Our narrative of one of great virtues, and of rare opportunities assiduously embraced, must here cease.

To enter largely upon the history of his sister would be superfluous; it has been already done. Her name is indelibly engraven in the annals of her country; it is interwoven with every association connected with the moral and religious culture of all classes, but especially the poorer classes of society. We will merely state that she married, in 1762, Mr. James Trimmer, of Brentford. With respect to her fame we may use the epitaph of Sir Christopher Wren, "Si monumentum quæris, circumspice." Every parochial school calls her before the mind, every fresh effort to educate the rising generation tells us of the soundness of her principles. It is true her writings may be superseded as knowledge becomes more general, but it is as the sapling grows into the tree,—the principle of life remains the same.

In the year 1774, on the 21st of June, the good, the amiable, and talented Joshua Kirby terminated his earthly labours. The event is thus communicated by his son-in-law to his brother at Witnesham:—"I dare say that a direction of a letter under my hand-writing, gives your mind sufficient notice to supply the rest, after taking leave of your good brother in the state you left him: yesterday night the gracious goodness of an all-merciful God removed

'Mr. Kirby from his state of trial and weariness here, to receive the fruit of his piety; he died easy, and before he left, bid us not to grieve: which injunction we strive to observe, and hope the same comfort will be supplied to all our good friends with you."*

It is not without regret that I find myself admonished by want of space not to linger in portraying the many beauties and excellencies which adorned the character of Joshua Kirby. We might with pleasure contemplate the success of the early training given by his father, as evinced in the career of his son, as well as in that of his grandson William—cut off, alas, before the fruit of his energies could be brought to maturity!

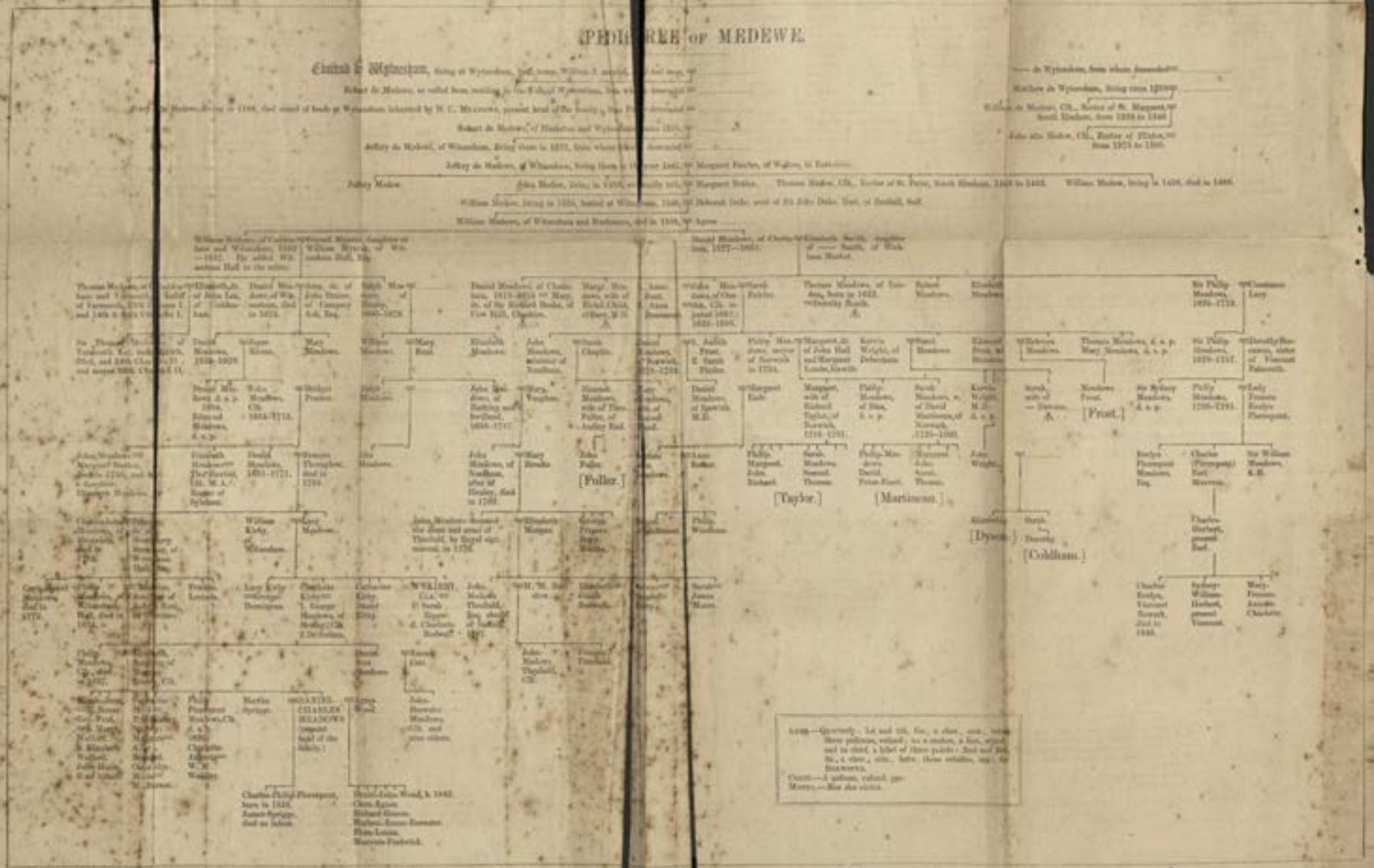
But it is time to enter more immediately upon the history of another grandson: as an introduction to which it will be necessary to notice William, the third son of John Kirby, who was born in the year 1719. He was brought up as a solicitor, but to enquire into the early part of his professional life would afford but little interest. We are in this case rather concerned with his domestic, than with his professional life. For many years his father before him had been acquainted with a family who for centuries had had "a local habitation and a name" in the county of Suffolk. The sequel of this friendship was, that William Kirby married in 1750, Lucy, daughter of Daniel and Frances Meadowe, a lady as remarkable for her personal attractions, as she was celebrated in no limited sphere for her many excellent qualities. To pass over the origin and position of this family would be unpardonable in the eyes of many. Some who search into musty papers merely to trace a pedigree, would say that they deserve notice, if it were only that

* There is a portrait of Joshua Kirby, in mezzotinto, by J. Dixon, after a painting by Gainsborough; and also an engraving by D. Pariset, after a painting by P. Falconet.

they afford pleasure from the very clear and distinct manner in which the family can be traced. Others will say that a link ought not to be omitted which serves to connect the present or the future with the past; because such a link when thus supplied has often been known to throw light upon important points of history when least expected. Another reason for not omitting it is to be found in the fact that this family is remarkable, if not unique, in the families of the kingdom. Moreover, it can be matter of little doubt that some points in the disposition of the more immediate subject of this memoir are to be traced to his descent from the Meadows family. The name is differently spelt, Medow, Medowe, Meadows, and Medows,—perhaps with some other variations. As enquiry has frequently been made about them by eminent men curious in tracing genealogies, the annexed tabular view of their descent will interest them.

The above pedigree, corroborated by original documents from a very early period in the possession of the author, clearly evinces the remarkable fact that this highly respectable family has literally maintained its ground for almost seven hundred years. Peter de Meadowe was in possession of lands at Witnesham as early as the 34th of Henry the Second, 1188; and the same lands have been handed down by an unbroken chain of succession and inheritance. The family has not, it is true, with the exception of a younger branch,—that of the Manvers,—arrived at lordly honours, and rarely at those of knighthood;* yet there it has been all along located, and there it is still represented

* They have, however, on several occasions filled the honourable posts of magistrate and sheriff. In 1662, Sir Thomas Meadowe, of Yarmouth, Kt., son of Thomas Meadowe, of Coddenham, was Sheriff of Norfolk, and another of the same family was Sheriff of Suffolk, in 1787.


PEDIGREE OF MEDEWE.
Charles de Wyndesham, living at Wyndesham, [illegible] temp. William I.
Robert de Medewe, so called from residing on the R. Medewe, Wyndesham, temp. [illegible]
Robert de Medewe, of Hadstock and Wyndesham, temp. 1215.
Jeffery de Medewe, of Wyndesham, living from 1301 to 1327, m. Margaret Fowler, of Walton, in Essex.
Jeffery Medewe
John Medewe, living in 1355, m. Lucy [illegible]
William Medewe, living in 1355, buried at Wyndesham, 1340, m. Deborah Dale, sister of Sir John Dale, Knt. of Dedhall, Suff.
William Medewe, of Wyndesham and Burbanes, died in 1393, m. Agnes
Thomas Medewe, of Wyndesham and Burbanes, living 1400, m. Elizabeth, dau. of Sir Thomas Tyrrell, Knt. Sheriff of Essex and Herts 1 Hen. V.
Daniel Medewe, of Charlesham, 1577—1661.
Elizabeth Smith, daughter of —— Smith, of Wicklam Market.
Daniel Medewe, of Charlesham, 1615-1674, m. Mary, dau. of Sir Richard Brooke, of Fen Hill, Cheshire.
Mary Medewe, wife of Richard Child, of Bury, M.D.
Thomas Medewe, of Lavenham, born in 1633, m. Dorothy Smith.
Richard Medewe.
Elizabeth Medewe.
Sir Philip Medewe, 1626-1718.
Constance Lucy.
Daniel Medewe, 1658-1679.
Sir Philip Medewe, 1679-1717.
Dorothy Bowyer, sister of Viscount Falmouth.
Daniel Medewe, d. s. p. 1684, Rector of Medewe, d. s. p.
Philip Medewe, Clk., 1685-1715.
Daniel Medewe, 1695-1721, M.A., Rector of Sydham.
Thomas Medewe, died in 1730.
Margaret Ead.
Margaret, wife of Richard Taylor, of Norwich, 1716-1791.
Philip Medewe, of Diss, d. s. p.
Sarah Medewe, w. of David Martineau, of Norwich, 1720-1800.
Kervin Wright, M.D. d. s. p.
Sarah, wife of — Dawson.
Matthew Frost.
[Frost.]
Sir Sydney Medewe, d. s. p.
Philip Medewe, 1760-1791.
Lady Frances Evelyn Pierrepont.
Evelyn Pierrepont Medewe, Esq.
Charles (Pierrepont) Earl Manvers.
Sir William Medewe, K.B.
Charles Herbert, present Earl.
Charles Evelyn, Viscount Newark, died in 1840.
Sydney-William-Herbert, present Viscount.
Mary-Frances-Amelia-Charlotte.
[Taylor.]
[Martineau.]
[Dyson.]
[Coldham.]
ARMS.—Quarterly: 1st and 4th, Or, a chev., vert, between three pellets, ruland; 2nd a cinquefoil, Ar, pierced and in chief, a label of three points; 3rd and 3rd, Sa., a chev., erm., betw. three estoiles, arg.; for Medewe.
CREST.—A pelican, vulned, ppr.
MOTTO.—Bee diligence.

by Daniel Charles Meadows. No spendthrift has appeared to dissipate the patrimony, no fool to be cheated into the surrender of the small but comfortable estate; and there has been no lack of heirs of the same name, to inherit in close succession. At the same time, to look at the other side of the picture, none have appeared amongst them of such enterprise and ambition, as to earn a name and gain an estate so large as to swallow up the original, in the magnificent creation of their own powers and their own genius. The reader may decide for himself whether or not it is probable that peculiar habits would attach to such a family as this; he can farther possibly imagine what would be some of the characteristics of the wife of Mr. William Kirby, of Witnesham, and what disposition the son would inherit.

The immediate result of the marriage was, that Mr. Kirby took up his residence in the family Hall, renting the farm of his father-in-law. At this time it is probable that he gave up in a great measure the general practice of the law, though his son William, in a short notice of him, says that he was an eminent solicitor, residing at Witnesham Hall. That he was a man eminent for private worth, for integrity, and generosity, there is abundant proof to be found in letters and papers which remain; but the extent of his farm, and the secluded spot in which he fixed his residence, forbade his following his profession so as to obtain a public reputation. His increasing family, added to the fact of his commencing life with little or no capital beyond that of his own abilities, rendered it very desirable that he should turn those abilities to profitable account; and his time was fully employed in conducting the affairs of those who proved to be more than good neighbours, and who entered into the closest friendship with him: thus he managed the estates of the Edgars, the Fonnereaus, the Theobalds, and the Bacons; and letters shew that he made much use of his talents gra-

tuitously for his friends, many of them intimating that he had neglected but one part of their injunction, viz. to take care of himself. The house, although the residence of the family for so many generations, must not be imagined a grand or baronial structure; but it is still a good specimen of the domestic architecture of times gone by,—substantial and convenient, according to the wants and requisitions of those days. In this retired and peaceful spot, there were not wanting scenes of happiness to heighten the enjoyment of William and Lucy Kirby; four daughters were born in the first eight years of their marriage. These events we must pass over to speak of the occurrence of the 19th of September, 1759, a day which will long be regarded as one which shines with peculiar lustre in the annals of the secluded village of Witnesham; for on that day, to the joy of the parents, was born the eldest son, William, *the Entomologist*.

One circumstance, slight in itself, but yet demanding consideration from the conjectures it has given rise to, must here be noticed; it is the apparent haste with which the infant was admitted, by the sacred rite of baptism, into the Holy Church. It is sufficient to know that, if sickness or weakness was the cause of this haste, that cause was soon removed; if it arose from too easy a performance of the service at a private house, it is enough to know that the day of baptism was always looked upon by the subject of this memoir, as a day especially to be "regarded unto the Lord," and the obligations entailed by it, respected with solemn awe and holy fear. So it was, that on the 19th of September, 1759, William Kirby was born, and on the same day his baptism is registered in one of the most accurately kept books in the kingdom; and the fact of this being his birth-day, is by family papers placed beyond dispute.

In bringing up this family, whilst no pains were spared to

impart sound religious principles, great care was taken to call forth those tastes which tend so much to mitigate the asperities and difficulties of life, and to afford a perpetual source of intellectual enjoyment. And what, it may well be asked, can be more conducive to the growth of the young and tender intellect, than the training which is carried on under the patient and gentle guidance of an amiable and intelligent woman? To the mother of Mr. Kirby this character appertained in a remarkable degree, of which no greater proof could be given than that to be deduced from the fact, that after more than eighty-four years had elapsed, he would recur with a freshness and delight to those early lessons which, to use his own words, "his very dear good mother" taught him. Notwithstanding the very great and important events which had occupied his attention, as connected with his literary life, nothing could efface these early impressions from his memory. He had read much, thought much, and laboured much, so that he might have been said to have educated himself in his own favourite science; yet he did not hesitate to affirm with the utmost confidence, that to his mother, and to her alone, he was indebted for a taste for Natural History, as well as for his first knowledge of the principles upon which he afterwards pursued it. Many able pens have dilated upon the influence of women in the formation of character, and volumes more might be written upon the same topic; but although I leave this task to others, I here add a very important and striking exemplification of the truth of the position.

When Mr. Kirby was a very young child, his mother would give him shells from an old family cabinet to amuse him: the diversity of shape and variety of colour which they presented, proved very attractive; he was soon taught to ask for his play-things by their proper names,—then led on to describe with accuracy each shell

which he wished for,—next to mark their distinctive characteristics, and at last to know every shell in the collection, not merely from habitual sight, or from hearing the name repeated, but from intelligent observation. Nor was this method of instruction confined merely to the study of shells; in his walks and childish rambles, he was introduced to that family of God's creation, the members of which are arrayed with such glory, and clothed with such beauty, that they rival and eclipse the magnificence and splendour of the eastern monarch: thus in early life was he led to notice perfections unseen by others, and ere long to verify the words of a modern poet—

> "That he whose heart will bound to mark
> The full bright burst of summer morn,
> Loves too each little dewy spark
> By leaf or flow'ret worn."*

Of the pains and diligence employed by him in the pursuit of botany, a very good judgment may be formed from a small herbarium still existing, in which the colours of the flowers are almost as bright as when they were gathered: it consists of plants gathered in Witnesham in 1770, arranged by his mother; and was fondly treasured by him as an endearing memento of her who had so bent the tender twig, that the growing tree had but to pursue the same course in order to bear abundant fruit. It must not, however, be imagined that he would have wished to see this mode of instruction usurping the place of more severe training, which is justly considered essential to form stability of character and soundness of judgment; neither would he have advised that these quiet amusements should altogether supplant more manly exercises, by which, as was the case with

* Keble.

himself, the bodily frame is strengthened, and greater play afforded for the expansion of the mind. These lessons were confined, as they ought always to be, strictly within the mother's province; and only those hours of recreation which would have been totally lost in idleness or listless indifference, were turned to account in this way. Of a more systematic course of education the first seeds were sown in the village school of Witnesham, which was not above the average, in the standard of learning, of our modern parochial schools. But in course of time he was sent by his father to the grammar school at Ipswich, the Reverend John King being the head master. The school at that time numbered among its scholars many who subsequently occupied leading posts in the neighbourhood, and some who rose to higher positions in public life. Of his progress there, evidence is afforded by the list of books which appears in the school accounts, as well as from some few exercises which remain; amongst the latter, a very creditable translation of Aristotle's Art of Poetry, at the age of 16, bespeaks care and diligence.

At the age of 15, he was called upon to endure one of the heaviest afflictions that could then have befallen him;—the guardian of his tender years was by the will of God removed: his mother died in the year 1776.

CHAPTER II.

University career.—Ordination.—Settles at Barham.—Description of Barham Church.—Marriage with Miss Ripper.

THE promise that was afforded by his habits of industry and evident thirst for knowledge, directed his father's attention to the University, with the ultimate hope that his son would enter into Holy Orders, as it appeared to be a profession most congenial to his own views and inclinations. Of special marks of early piety I do not know that any traces exist; but of the well-grounded and solid principles upon which his mind was formed, his after life is the best index we can have. The time at length arrived that he should be entered at one of the Universities: the choice fell upon Cambridge; and the selection then made of a College is not without significance, which it seems bespoke a hope of a prosperous academical career. The natural predilections of himself, as well as of his father, would have been in favour of St. Peter's College. The living of Witnesham was in the gift of that Society,—the master of the grammar school at Ipswich was a Peter-house man, and others also among the immediate and intimate friends of his father were of this College; so that he would often in after life remark, that his associations connected with Peter-house, were almost as many and as cheerful as those connected with the College to which he eventually belonged: he would also add, he wondered why his father did not send him there: reflection, however, always supplied the reason,—"Caius College offers great advantages to natives of Norfolk and Suffolk who

distinguish themselves in the list of honours, and I think that was why I was persuaded to go there." Curiosity will be excited to know how far his friends' prognostications were found to be well grounded; and his admirers will perhaps be surprised to find that he is not known to have done anything by which his name could acquire reputation or distinction in the little world in which he moved. Not that there is any reason for supposing that he adopted the view of the poet Gray, who "liked neither the mode of life, nor the fashion of study, and lived sullenly on to the time when his attendance on lectures was no longer required;" but the fault rested, perhaps, rather with others than himself. By those of his own standing, who disregarded the old and well-established maxim,—"nimium ne crede colori," he was looked upon as a man of slow mind, and rather inferior ability: how far the superior and more mature judgment of the College authorities led them to a different conclusion I cannot say; of the opinion just stated, as formed by men of his own standing, I have had the most undoubted evidence There were, however, some who appreciated his perhaps hidden store of knowledge, and even then sought his friendship. That his time was not wasted in pleasure is very manifest from the large collection of papers which remain, written by him at College; the greater number of them being compilations or arrangements of other authors, which if they did not show originality, they did at least bespeak perseverance and judgment. These papers were principally on moral, philosophical, and classical subjects, for the two last of which he had evidently a taste; and had either of them alone offered a road to distinction, it is probable that he might have appeared before the world in a different light as regards his studies at Cambridge. But it must be borne in mind, that the only classical honours then to be obtained were not only confined to the highest walks of scholarship,

but limited also as to the number who were privileged to contend for them. His mind was not adapted for that kind of ready composition required; nor was he endowed with that peculiar genius which would encourage his attempting to contend for a Chancellor's Medal,—then almost the only mark of classical distinction known; and although he evidently possessed the faculty of making close and accurate analysis, yet pure mathematics seem to have had no charm for him.

Of the friendships which he formed during his University career, some were firm and lasting, more especially that with his excellent and learned friend Sutton. As to the social position which he maintained at College, it may be sufficient to say that his expenditure was not on the one hand lavish, neither on the other was he debarred from the advantages of society, or the recreations which belong to the ordinary student of the University. In the year 1781, he took his degree of B.A., and having now no tie to attach him to the University, he removed his name from the boards, probably to avoid incurring further expense. If he failed to obtain academical distinction and honour, he nevertheless, by deep and serious thought and prayer, obtained a prize of higher value: viz., a stability of character, and a firm and unshaken conviction that the lessons upon religion which he had learned in early youth, were founded upon the best and surest basis,—the Word of the Eternal God.

During his residence at Cambridge, a poison was instilled into his mind, which threatened to corrode and consume the fair structure which had been cast and moulded with more than ordinary care and solicitude. The cloud was perhaps unnoticed by those around him, but it is more than probable that it preyed upon him so much as to lead him from the ordinary and usually prescribed course of study. The reader who is now acquainted with the works of this Chris-

tian philosopher, will perhaps be surprised,—those who knew him personally, and watched the deep humility, the earnest, the uncompromising, the almost unenquiring faith, of this devoted child of God, will be amazed to hear that that mind was in danger, his faith and hope in peril, the frail bark was assailed by soft and whispering, but treacherous gales, and was on the very verge of a whirlpool of the worst kind of Socinianism. This might have been passed over, as the only dark page in his history, but truth requires this notice of it; and, moreover, on this account his after life stands forth as a more conspicuous monument of the grace and goodness of God towards those, who, in the hour of doubt and temptation, seek His aid and direction; a lesson too is here written in legible characters, of the deep importance of the inculcation of truth, before the tender mind is launched forth to contend with not only the allurements to vice, but with those subtle devices which captivate and enslave the mind.

Upon leaving the University he returned to the retirement and seclusion of his father's house, where he made diligent preparation for entering upon Holy Orders. This important and solemn event took place in the month of June, 1782; he being then ordained deacon by the Bishop of Norwich. Those who take the trouble to investigate dates, will perceive that he had not yet attained the age of 23; there is, however, the most positive proof that he was then ordained, possibly from the lenient manner in which the law relating to age was interpreted, the passing year being reckoned as though completed.

The field appointed by the providence of God for the commencement of his ministerial labours was the self-same in which he exercised, with so much zeal and earnestness, the talents committed to his care, until the time at length arrived when the Lord summoned his servant to render his

account, and to lay aside the weapons of earthly warfare, to receive, it is hoped, the crown of righteousness which belongs to those who, by grace, have fought and overcome; and to have an imperishable seal attached to that blessedness which is graciously promised to those who are found watching when the Lord comes. His appointment to the cure of Barham resulted from the friendship of his father with Mr. Nicholas Bacon, who was rector of Barham and vicar of Coddenham, where he resided. The services required from him were to take the sole charge of Barham, and to perform one duty on Sunday at Coddenham. There were many circumstances which rendered this an eligible curacy: the population of Barham was sufficient to call for vigorous exertion, but not sufficient to absorb his whole time and thought. Amongst the inhabitants there was poverty enough to awaken sympathy, and wealth and generosity enough to render it his pleasing task to trace the wants and necessities of the sick and needy, and then to be the almoner of the rich, and dispenser of their bounties. In the ancient hall of Shrubland resided Mr. John Bacon, whose kindness and friendship for the young curate was unbounded to the day of his death: the house of his rector, where there was always a cordial and hearty welcome, had great attractions for him, from the ready access which was given to the library with which the vicarage of Coddenham is endowed.* The locality and general features of the

* This library was founded by the Reverend Baltezar Gardemau, who was forty years minister of the parish. He was born at Poictiers, in France, and resided in England in consequence of the persecution of the Protestants abroad. He married Lady Catherine Bacon, relict of Nicholas Bacon, Esq. of Shrubland Hall, and daughter of the first Earl of Sandwich. He is said to have been learned, pious, and charitable: amongst other acts of liberality, he endowed a school for the benefit of the poor, and purchased the great tithes of the parish, with which he endowed the benefice.

parish were not without their influence upon Mr. Kirby's mind, as he oftentimes avowed: indeed these, and the early kindness shown him, were a never-ending theme of conversation with him, and when referred to, would call forth from him the deepest expressions of gratitude. It was at once a cheerful and convenient spot; the parsonage house, "parva sed apta," standing in a meadow five miles from Ipswich, and three miles from his father's residence. The scenery around had many charms for one who possessed a mind that could be amused and exhilirated by the contemplation of the beauties of nature; for the country, in its general aspect, is wooded and well cultivated, with undulating and broken ground at intervals: it abounds, too, in sequestered nooks and shady lanes, for which this part of Suffolk is justly celebrated, and which make up in some measure for the bolder and more striking landscapes of other counties. The soil, in the course of a moderate walk, passes through various changes of sand, gravel, chalk, and clay, presenting an ever-varying field for flowers, and consequently for insects, which make them their habitation, or their food. The streams and ditches of the low meadows abounded with the yellow iris, the purple loose-strife, and the fragrant spiræa; and the banks of the canal amused and charmed the stroller with the beauty and elegance of the brilliant dragon-flies, and the skimming gnats. The gravel supplied the plants which despise the thirsty nature of their neighbours by the stream; the woods abounded with the orchis, the blue-bell, anemone, and a host of plants which provoke observation even in a mind of moderate inquiry. Here bees and butterflies, beetles and ants, spiders and other insects, are found in so many forms, that it would exhaust a life before it could be said that all had been entered upon the naturalist's catalogue. It is true, no country is destitute of beauty and of interest to those who

seek for and mark the traces of unerring skill and wisdom; but this was a neighbourhood peculiarly felicitous for such a mind as Mr. Kirby's to receive its early lessons. The foregoing remarks are almost in his own words, when musing on the blessings by which his long life had been surrounded.

The church in which Mr. Kirby commenced and ended his ministerial labours must not be forgotten. The site is picturesque, being on an eminence well surrounded with trees which line the banks of the exhausted chalk pits, and slade* to the south. The building itself, though a good parish church, does not present any very attractive features; neither are there any marks to tell of Saxon, or even Norman date. There is, however, something pleasing in the simple arrangement of the interior. This part of the church underwent thorough repair about twenty years since, and then formed a great contrast to the inconvenient and unmeaning fittings of the sacred edifices in some of the adjoining parishes. The only architectural beauty is to be found in the roof,† which, like many others in the neighbourhood, is commonly supposed to be of Spanish chestnut: perhaps the magnificent trees in Shrubland Park may have given especial countenance to the opinion in this particular instance. It has, however, been satisfactorily ascertained that the material usually taken for Spanish chestnut is the timber of the sessile-flowered oak. Time is now bringing the wood-work to decay with rapid strides:

* Slade, a green road—old English; in Anglo-saxon, slæd.—*Forby's Vocabulary of East Anglia.*

† The beauty of the church roofs in Suffolk is proverbial. Splendid specimens exist at St. Mary's, Bury, St. Mary's, Woolpit, St. Margaret's, Ipswich, and many other places. They have been made the subject of papers in the British Critic, No. 58, for April 1841; and in the Transactions of the Cambridge Camden Society, Part II. No. XIII.

a piece of it, curiously perforated, was exhibited at the Entomological Society* in the year 1847, when the work of destruction was said to be carried on by *Anobium tessellatum.*

Although destitute of architectural beauty, the church is not, however, altogether without interest to the archæologist. At the north side of the nave is a short aisle, and within this, at the east end, a chapel of about the same dimensions, in which is a large tomb of the Bacon family; also a mural tablet to the memory of some of the same family. There is a window communicating with the chancel on the south, and a large window on the north, the stonework of which is ornamented with the rebus of the Bacons: this is supposed to have been brought from some other building,—possibly from the old hall at Shrubland, when the present mansion was erected in its place. This separated part of the building is said by a late antiquary,† who took much pains in the investigation, to have been a chantry,‡ erected for the use of a priest, for the purpose of praying for the soul of some departed benefactor. The name of the person who was the last to perform this office is still preserved in the records of the diocese, where it appears that he was dispossessed in the reign of Edward VI., when the doctrine of purgatory was uprooted. The revenues of this chapel were then vested in the crown, and the building was regarded as

* A letter was read by Mr. Spence, describing the havoc committed by *Anobium tessellatum* on a beam taken from the vestry, which was completely honeycombed with holes of the size of a small quill formed by the larvæ.—Vide Proceedings of the Entomological Society, March 1, 1847.

† Dr. Sutton.

‡ In Mr. Kirby's other church of Coddenham there is a chantry at the east end of the south aisle, with one of the most beautiful piscinas attached to it that can be found in a similar situation.

a part of the church. That the chapel was not originally built for the use of the Bacon family is pretty certain, as there is a large canopied tomb in the chancel, which has always been looked upon as the burial-place of an inhabitant of Shrubland: this would not have been the case had there been a private cemetery attached to the house. Who was the founder is not so clear; with some plausibility it is alleged that it was John de Watford. This is grounded upon the well authenticated fact, that in the year 1292 the rectory of Barham, or Bergham, as it was then written, was rated at sixteen marks, and at the same time there was a tax paid of 5s. 4d. on account of the portion of John de Watford; but whether this John de Watford was, or was not, the actual founder of this chapel or chantry, is a question which still remains open for learned antiquaries to discuss.

The earliest history of the parish tells us that the advowson and manor, as well as a large portion of the temporalities, were, in 1045, purchased by one of the earliest abbots of Ely, for the sum of twenty-four marks of gold, the episcopal jurisdiction being at that time in the see of Elmham, and not, as at present, in that of Norwich. The property continued in the hands of the abbot of Ely until the dissolution of that house in the year 1539, during which space of time, being nearly 500 years, the abbot and convent presented to the rectory. In 1541, Henry VIII. erected a dean and chapter in the lieu of the old house, and granted to them the greater part, but not all the old possessions. One part which he withheld was the rectory of Bergham: this he granted to Sir John Southwell, and by him and his descendants for a long period clerks were presented to the rectory. The advowson subsequently passed into the hands of the ancient family of Tollemache, and finally into the hands of the Bacons. In the spacious

chancel there is a fine monument to the memory of Jon. Southwell;* in the floor are a few brasses yet remaining, but not any effigies, so carefully did Will Dowsing execute his commission, the heroic deeds of which he thus delights to commemorate: "Jan. the 22d [1643]. We break down the 12 Apostles in the chancel, and 6 superstitious more there; and 8 in the church, one a Lamb with a cross X on the back: and digged down the steps; and took up 4 superstitious inscriptions of Brass, one of them *Jesu, Fili Dei miserere mei,* and *O mater Dei memento mei.*"†

We must leave the fabric, to pursue the history of him whose many associations with it called for this description. The manner in which Mr. Kirby commenced his residence was in perfect keeping and unison with the whole of his subsequent deportment; it cannot be better given than in his own words frequently repeated in his latter days:—"I walked over one evening from my father's house, carrying my own bundle; and here I have been ever since, and a nice snug berth it was for a young fellow to step into." It has been sometimes supposed that the fact of his carrying his own wallet indicated the needy circumstances of his parents, but there is the most ample proof that such was not the case; the little incident is only one amongst a great multitude which bear witness to the simplicity of his character and habits, and for this alone it is worthy of notice.

He had not been long in his lonely parsonage when,

* It bears the following inscription:—"This monument is sente over from the cittie of Limrick in Ireland by Sir Richard Southwell, second sonne of Jon. Southwell of Barham, Esq., and Margrete his wife, as a pious remembrance of them to be left to their posterity. Ano. Do. 1640."

† The Journal of William Dowsing, reprinted 1844. J. W. Parker, London.

notwithstanding the abundant resources within him, he seemed to anticipate the language of a northern bard, and to him—

> "Still slowly passed the melancholy day,
> And still the stranger wist not where to stray.
> The world was sad!—the garden was a wild!
> And man, the hermit sighed—till woman smiled!"*

It might be sufficient here to say he met with an amiable lady, adorned with many virtues, and married her; but I am desirous of describing circumstances connected with his history accurately, whether we regard the domestic or scientific relations in which he was involved. With such a character, it would be impossible to separate the one from the other. In the year 1784, in the parish church of Debenham (a large village in Suffolk), William Kirby was married to Sarah Ripper, who was born in the year 1761. Her father carried on the business of a grocer and draper, and kept the village shop; he is reported to have been a man of integrity by those beneath him, and was generally respected by his neighbours as an intelligent and unassuming man. His wife was a person of education beyond her sphere; she had been brought up as a dissenter, of that denomination who assume to themselves the title of Independent, though too often an inquiry shows that none are so chained and fettered in the operation of their mind as they are. This stigma did not, however, attach to Mrs. Ripper, whose mind, although in error on many points, was not clouded by prejudices, nor blinded by the enthusiam of those by whom she was surrounded. Sarah Ripper was sent to school at Ipswich, and allowed to follow her own inclination in con-

* Campbell's "Pleasures of Hope."

sidering herself a member of the Church of England. One of her most intimate companions at school was Miss Charlotte Kirby, and this friendship was the cause of frequent invitations to Witnesham Hall. Here Mr. Kirby had many opportunities of becoming acquainted with her character and habits of thought, and he soon became an admirer of her personal attractions, and her truly amiable disposition. It was finally arranged that she was to lighten his labours, and complete his domestic happiness at Barham.

One result of this marriage was peculiarly happy, and tells of the charity and forbearance which dwelt in the mind of one whose opinions were deeply rooted, and founded upon the most mature thought and deliberation. Mr. and Mrs. Ripper, advanced in years, determined to relinquish the shop, and to regard the savings of years of care and toil as that competency to which, in the morning of life, they had looked forward; and gladly they responded to a welcome to spend the evening of their days in the quiet repose of Barham parsonage.

The patience and forbearance which Mr. Kirby exercised in various discussions were not thrown away: Mr. and Mrs. Ripper soon became not merely attendants upon the services of the parish church, but found that as much benefit was to be derived by following the steps of their forefathers, as in the novel ways marked out under the pretence of independence. It would be well if truth were always urged in the same mild and persuasive manner, proving by evident signs of conduct and temper, that the influences of the Holy Spirit are abundantly to be obtained through the channels and appointed ordinances of the Church, which has been so marvellously protected and cared for by the providence of God; if it were always set forth, that to rend or tear the garment of Christ is indeed sinful; that however merciful God may be to those who sin from weakness or infirmity, yet it be-

comes unpardonable in those who are convinced they are in error, if they do not muster courage to acknowledge they have been deceived. This was the course pursued by Mr. Kirby; and though it is hard indeed to shake off habits and prejudices sown in youth, growing with the growth, and strengthening with the strength, yet, in spite of these difficulties, he was, through God's blessing, entirely successful.

From the period of taking possession of his curacy, Mr. Kirby's time was occupied in the duties of his parish, and in close and laborious reading in his study, his principal recreation being a saunter in the neighbouring woods, or the amusement of cultivating his garden. These lighter pursuits, however they might engage the attention for a time, were scarcely sufficient to relieve the labour of weeks and months of close application. There are few minds that are not rendered more elastic by change of scene and occupation; and this change, as it was requisite, so also it had great charms for him. I have heard him say, that in early life his mind was most ardently bent upon visiting foreign countries, and that, had it been necessary for him to choose any other profession than that of a clergyman, he would have selected one that had taken him abroad. But with a mind like his, a very small and limited space becomes as a world for investigation; and many a good lesson may be learnt while contemplating the thorough enjoyment which he derived from the smallest and most trivial events which he met with,—so true it is that our happiness depends not on external circumstances, but upon the spirit by which we are actuated in meeting them. His father, as well as his grandfather, had set him an example of rendering a journey pleasing by accurate observation, and by making notes of every occurrence relating to the past or the present. Of the habits of the grandfather we

have already had information: it may be added, that his father left behind him MSS. of journeys, more especially of one to Bath, in the year 1758, not yet out of date: drawings and maps were made to illustrate the position of the various towns, or to raise the imagination to embrace more fully the historical details of places of importance.

Mr. Kirby's fondness for botany very naturally suggested an object for excursions from home, and rendered it comparatively unimportant whither he directed his steps, provided it was into a fresh field for research: in the pursuit of flowers, countries the most flat and uninteresting present charms unknown to the ordinary traveller. Moreover, a new source of delight and pleasure had now opened before him, as circumstances had led him to study entomology as well as botany shortly after his marriage: he was now, therefore, continually meeting with objects of interest at every step. In the perusal of the journals, which the author has in his possession, those whose minds are of similar formation would be struck with their simplicity of style, and would derive pleasure as they marked the interest which every trifle awakened in his mind; while those who might wonder what could induce him to make notes upon such trifles, might do well to mould their own minds on the same pattern as that of the journalist.

CHAPTER III.

Acquaintance with Mr. Jones.—Effort made to establish a "Society for the Reformation of Principles."—Remarks on Mrs. Kirby's Confirmation.—Study of Botany at Nayland.—Mr. Kirby's discussions with his friend on philosophical and theological questions.—Death of Mr. Jones.

AMONGST those who had pursuits and tastes of the same kind as Mr. Kirby, the first who arrests our attention is Mr. Jones of Nayland, so widely and universally known, that any notice of him here, beyond that which is to be derived from his letters, would be superfluous. However Mr. Kirby's talents were overlooked at College, the sterling worth, the habit of deep thought and investigation, combined with true piety, which characterised him, did not escape the kindly and favourable notice of the christian philosopher of Nayland. The nature of their intercourse, and the subjects of their conversation, will be readily perceived from the following extracts from letters which passed between them: the first that was received, gives so fair an opening to the history of the friendship, that I present it verbatim:—

"Nayland, June 24, 1792.

"Sir,—At this season, when good and learned men are so much wanted for the defence of the Christian faith against the subtlety and impudence of modern adversaries, I hear with pleasure of a candidate, who wishes to engage in that honourable employment. Come and dine with me the first Thursday in July, and tell me what you have in hand, and then I will tell you what *we* have in hand,—I may say in many hands,—of which I assure myself you will will be glad to hear.

"I am,

"Your obedient and humble servant,

"W. JONES."

The work for which the many hands were united, was the establishment of a Society for the "Reformation of Principles," which was to employ literary means in the preservation of Religion, Government, and Law, against the attacks of infidels and seditious demagogues. In the year in which the above letter was written, Mr. Jones thought his scheme would be perfected, but from some cause or another it failed,—not without, however, some good arising from the effort; "The Scholar Armed," a valuable collection of tracts, being published; and "The British Critic" taking its birth from the same source. That which Mr. Kirby had to communicate was, that he had prepared some articles suitable for insertion in any periodical which might be established to stem the torrent of the tide which was threatening to overwhelm the country with an age of reason and infidelity. His papers embraced addresses to members of the Church of England, cautioning them against listening to the insidious arguments of those who masked the pursuit of their own political ends, and their own personal interests, under the cloak of religion.

Many a scheme there was at this time, for overturning the Church and the Throne, and for removing every restraint human and divine. One would make the Word of God bow before the deity of intellect; another would declare that the secret of God was with him, and would only be imparted to those who became his disciples: much was boasted of illuminations of the Spirit, and gifts of knowledge surpassing those vouchsafed to ordained ministers of the Church. To leave these erroneous doctrines unanswered, was to give up many unsuspecting minds a prey to their evil consequences; but Mr. Kirby's object was to provide just such information as they required, and, without giving a taste for the controversy, to unfold the consequences of specious theories: his papers were inserted at various times, and always under a feigned name. Amongst them was one calculated to open

many eyes to see the amount of credit that was due to these boasting reformers of society: this was a short sketch of the life of the notorious Tom Paine. A stubborn fact passed before Mr. Kirby's own observation, which was, that this man was not only squandering, in vice and iniquity, the ill-gotten reward of his infamous labours, but had even taken by fraud, for the same purpose, the small pittance of his widowed mother, and left her to pine in misery and starvation. Those who bound themselves together to supply an antidote to these machinations of the adversaries of Christian truth, were called upon to use much vigilance, and to exercise great self-denial, and stood in need of much mutual encouragement. No reward was open before them but that of an approving conscience, and when they gained the victory they had no hope of honour or of public applause; nor had they the excitement of appearing before crowded assemblies to stimulate them to fresh exertions. If, however, the silent and unostentatious manner of proceeding had its disadvantages, so also had it that connected with it which recommends it as an example worthy of imitation: the efforts of a few earnest men heartily devoted to a cause, being far more efficacious than the mere outward and occasional exhibitions of feelings which prompt men to urge their own nostrums, as the only safe and effectual remedies against the evil to be combated. Those whose minds were wont to find a centre of action at Nayland Parsonage looked not for earthly applause; indirect testimony, did we know nothing farther of their character, would tell us that the object most dear to them was, that they might be found true soldiers of Christ, and prove the soundness of their faith, by their zeal in the cause of their God. This accounts for so little being known of their labours: although the effect that was produced by some of their publications was beyond description, the silent influence, of which no marked record remains, would readily be acknowledged

by any one who would make the investigation. Mr. Jones speaks thus of one of their papers [written by himself] to Mr. Kirby:—"Tom Paine's picture will certainly be of use: I have, therefore, sent a copy up to the Editor of 'Thomas Bull.' The success has been prodigious of that paper,—beyond all expectation; a hundred thousand copies are disposed of already; 30,000 went off at a single order. The King and Queen having seen it, asked a friend of mine for all the copies he had about him; so it has been read from the King to the cobbler. Some Dissenter of this neighbourhood has printed a similar sheet of fanatical rage against it, glancing at a supposed reverend author of it,—but this will do more good than harm: we have a knot of traitorous men in this parish; 'tis pity but some of them were made examples of.....I went up to London yesterday somewhat heavy-hearted from the reports of the times, but that was the day on which the tide turned, and all has been quiet since, so that I returned with ideas totally opposite to the former; and the papers of this day assure us that Tom Paine is now hanged and burned in many parts of the kingdom: perhaps I may have contributed something to the catastrophe of wicked Thomas, by a paper to light their fires, and you have added another. I received a letter from a friend who is much alarmed about the wickedness of Evanson's book,* but I told him it was in good hands,—and so I hope it will prove."

* The Rev. Edward Evanson, Vicar of Tewkesbury, in Gloucestershire, and domestic chaplain to the Solicitor-General, was born at Warrington in Lancashire, in the year 1731. He was the author of a small 8vo. volume, entitled "The Dissonance of the Four generally-received Gospels," and of several other heretical works, in which he endeavours to show that either the Christian revelation was not true, or the religion of every orthodox church in Europe was fabulous and false. He died at Colford, in Gloucestershire, on the 25th of September, 1805, aged 74.

About this time it was ascertained that Mrs. Kirby had never been confirmed: her parents being Dissenters, readily accounts for this neglect. Although now above the usual age, and practically fulfilling, to the best of her abilities, the vows and promises of her baptismal covenant, still she was advised to observe the ordinances of the Church, and to conform to the Apostolical custom. Her husband communicated with his friend at Nayland, and received the following strong expressions of his sentiments:—"I think with much interest on Mrs. Kirby's case, and write to you the sooner on that account. Had there been confirmation in America, there would have been bishops,—the country would not have begun that extraordinary republican dance, which, like the long minuette, may extend itself to all that are on the stage of this world. Mrs. Kirby's is by no means a singular case: it happened but last week that my brother's wife, who had never been confirmed, went for that purpose at fifty years of age to Halstead; and his first wife, although the daughter of a clergyman, was not confirmed until after she was married. When I was a young man, it was my good fortune to be acquainted with one of the best men, and most learned of Churchmen, who, when this question was put to him, said it never should be omitted, and urged it with reasons I had not before met with. The person I speak of was Mr. Wogan, Author of the 'Essay on the Proper Lessons,' in 4 vols., and many other pieces: among the rest was one 'On the Right Use of Lent,' which at a very advanced age he observed so strictly that nature could not support it; so that he got a fall from weakness, and with it a hurt on his head from which he never recovered. In the observance of confirmation there is none of this danger,—it will tend to lengthen life rather than shorten it; and so doth Lent, reasonably observed; even the Roman Catholics do not insist upon severities from persons far advanced in years."....

We have already mentioned Mr. Kirby's fondness for the study of Botany; this he pursued in no hasty or superficial manner, but with the greatest perseverance and research. It was not enough for him to know a plant by sight, and to ascertain its proper name, but he compared the minutest parts of inflorescence and fructification; he sought for the most trifling differences in those nearly allied, and studied with a keen but generous criticism the various theories of writers on the science, from the earliest age to the time of the immortal Linnè.* Of every plant he met with, even to the daisy and primrose, the whole physiological structure was thoroughly investigated; he discovered, or rather observed, what it was which enabled some plants to endure great changes of temperature, while others perished,—the formation which enabled some to live in water, while others flourished in the most dry and arid sands;—he carefully marked the causes which combined to clothe even rocks with verdure, in consequence of the wonderful structure of the plants inhabiting them, enabling them to live as it were by suction of their numerous mouths, rather than by nourishment transmitted by a root in contact with that which would refuse to yield the ordinary food of plants. And as he thus marked all these peculiar adaptations of plants to their respective situations, his mind was by a constant train of thought directed from the beauty and wondrous mechanism of the creature, to contemplate the supreme and ineffable glory of the Creator.

Nor would he rest satisfied with the thought alone: again and again, either by word or by pen, he would endeavour to impart the same delightful impressions to those who came within the sphere of his instruction. To give one instance: his words are, "We may glorify God by the use

* This form of spelling the name of this eminent naturalist has been adopted (except in quotations), as it was the form commonly used by Mr. Kirby.

of our eyes when we behold and examine his works so as to be led thereby to praise the Creator, whether we survey the heavenly tabernacle which he has pitched over our heads, the clouds, meteors, and vapours that it contains, the lightning which the glorious God sendeth forth,—the rain, the hail, the snow and frost, or the sun, moon, and stars, which he hath stationed therein to rule the day and night; or whether we look at the earth and its various productions,—the different kinds of soil and their fruitfulness; the variety of stones and metals, and their uses, the plants and trees that grow out of the earth in such abundance, and with such astonishing diversity for the delight and support of man, and the animals that inhabit it..... when we go farther, and with more curious eyes examine and explore the structure and parts of all those works of creation—their limbs and organs, and the means by which their life is sustained and supported—when we behold these wonders, and praise Him who made them, then we glorify God with our eyes."*

At the period of life which we have now under consideration, Mr. Kirby may be regarded as having obtained a rank amongst the masters of the science of Botany: he was now willing and able to advise others, who had started in the journey before him. Amongst other applicants, we find his friend Jones urging his claim: "It is a sad thing," he says, "that your time is so much employed that we have little hope of seeing you at Nayland, especially now the plants are all up, and you are wanted in your botanical capacity to assist in completing my tables of plants. You set the *Melittis*-Bastard Baum amongst my beauties, and a beautiful plant it is; there are few that make a better appearance."

This arrangement and description of the plants at

* Extract from an unpublished Sermon.

Nayland had an ulterior object: Mr. Kirby and Mr. Jones mourned in common to see the manner in which philosophy, falsely so called, was threatening to cast over every branch of natural science a mantle so dark and heavy, that few could venture to hope, if they once entered within its gloom, that they should be able to trace their steps through the devious paths of worldly wisdom, so as to enjoy the light of heaven again. The following extracts from the letters of Mr. Jones show plainly how their minds were at work:—"I suppose you have received an official address from the Society for the 'Reformation of Principles,' on which I should be glad to confer with you, as well as on Linnæus and Linnæanism. I hope my packet has reached you, which I sent last week; you will therein see the errand I go upon; the paper No. 3, printed for the Committee, being to be taken into consideration next Tuesday: you will see, also, how strongly I am affected by some subjects which have been much in your own consideration. The sermon enclosed took wonderfully in London, and made a great noise, which, if it should subside, as it probably will, with little effect, we may look upon that as an additional symptom: but of this I hope to talk to you when we meet. I wish you very much to assist me in making ready my catalogue of plants for the public: you may see by their proceedings how those Atheistical coxcombs in France consider the chymists and botanists of the new school as their friends.

"You started an idea which has pleased my mind ever since,—'that dark times are preparatory to succeeding brightness; light is sown to the righteous, and that which is sown must lie hid for a time, but a spring shall raise it up in the end.' We much wish to see you, that we may compare notes on many things which have happened since we met. I am glad that a person so well qualified to teach has got a pupil. My late engagements have made it impossible that I should

follow up the intended edition of my works. If Percy comes, I have a work in hand which will require all the attention I can spare." This was written in the year 1793, and he might refer to some work which was never completed, or to one of those mentioned in the year 1795, when he writes thus, after one of his usual cordial invitations to Mr. Kirby:—"Perhaps you may recollect that I was meditating a Life of the Bishop of Norwich; it is now done, and I wish it may give some light to the younger clergy whom I often had in my eye; to such readers as yourself it may appear interesting and useful. The compilation, under the title of 'The Scholar Armed,' is out,—how it will be received and promoted I cannot foresee; but if the doctrine of my sermon is true, we have reason to fear that no extraordinary zeal will be exerted in its favour." This sermon is the continuation of "The Man of Sin," and entitled "The Age of Unbelief," for he says "they are nearly related, the one being the Pope of Infidelity:" his letter concludes, "I want you to tell me some of the thoughts which must have been passing in your mind in these portentous times; you are a thinking Christian, and I wish to know your sentiments of many things that are rising up in these days..... When will the season be favourable for botany? I want to hear you talk on this subject also."

I have already referred to the "British Critic" as having had its origin at Nayland Parsonage: we may gather something of the history of its progress from the communication of Mr. Jones to his confidential friend. "The British Critic does well for such subjects as befit the Crown and Anchor, but its divinity is lamentably deficient: it is not executed by the sort of persons for whom my plan was designed." At one time it appears they not only failed in carrying out his intentions, but actually went against him; for he says, "I threatened to write against them, and I have some encouragement to suppose, from the effect, that they

have been much more upon their guard; it would be pity if they were not, for the public are well disposed to support them, and they have a great opportunity of doing good. They have had the good effect of lessening the sale of the Monthly Review to the value of 1000 copies a month, which is a circumstance worth all the trouble I took in giving birth to the undertaking.....It gives me much satisfaction to find that you take pleasure in reading, as I did in writing, the Life of Bishop Horne, and I am thankful to God that He allowed me the opportunity of delivering such a man to the world."

The aspect of the times in which this friendship existed was very remarkable, and had, perhaps, much to do with some of Mr. Kirby's subsequent opinions, besides giving present employment and occupation to his thoughts: and this makes his correspondence doubly interesting. The casual reader of history can call to mind the state of the continent at the close of the eighteenth century, when wars, perplexities, and tumults, appeared in every direction. It has generally occurred, that times of warfare and political excitement are unfavourable to questions either of science or theology; but these at that time not only were kept in view, contrary to experience, but were actually moving causes of evil and disturbance. No wonder, then, that such matters were frequently discussed by Mr. Jones, and his younger but not less thoughtful companion: the view which the former took of passing events was, "that amongst them were likely to be found the instruments by which God would reveal his judgments upon the ungodly, and exhibit his glory to the saints upon earth." In 1793, he writes: "I am now convinced that I have lived to see the man of sin revealed, and that the way is now open, or opening, to the final judgment. I am in expectation of another event; for now there hath been a formal renunciation of Christianity

among the Gentiles, the conversion of the Jews may be at hand. If such a thing were to happen in France, and the philosophers should see the Jews take up what they have cast away, all the torments of the heathen persecution would be immediately turned against them: I now frequently recollect what a learned friend was heard to predict, that when Christians should apostatize, as he foresaw they were about to do, they would become the worst persecutors the world had ever seen. There are too many other things of this kind, for me to write upon; I wish we could converse about them."

In another letter, after describing with great satisfaction and apparent delight the progress made by two pupils in Hebrew, he writes:—"I had it in my mind to write to invite you to meet these two young men, as you are a Hebrew scholar; one, the son of Lord Somers, will remain some time longer.....Mr. Maurice's* Book is a curious mixture of truth and trumpery, about which I wish to talk with you. I have lately read some books edifying and alarming. Robison† is curious indeed. I knew, before.....told me, that the French Revolution came out of masonry, so called—under the machination of Orleans, who perished in his own

* Maurice's Book.—"Indian Antiquities:" in which the author produces numerous instances to prove that Christianity inculcates no doctrine, or feature of a doctrine, which may not be traced among the fables of the nations of India; and amidst investigations more recondite, and discoveries more important, traces the analogies between the triangle, the *numen triplex* of the Egyptians, and the doctrine of the Trinity.

† John Robison, M.A., Professor of Natural Philosophy, and Secretary to the Royal Society of Edinburgh, was author of a work entitled, "Proofs of a Conspiracy against all the Religions and Governments of Europe, carried on in the secret meetings of Free-Masons, Illuminati, and Reading Societies; collected from good authorities." London, 1798.

snare : Barruel relates the same story, and they both strongly coincide ; I know Barruel* personally, and believe him a great and a good man."

The acquaintance between Mr. Jones and Mr. Kirby was, as the first letter shows, the seeking of the latter, to whom a generous and hearty welcome was at once given : the progress of the acquaintance proves how happy were the circumstances which brought them into contact : indeed, it is almost impossible to calculate the influence which this intercourse had upon Mr. Kirby's mind ; throughout the whole of his life, his character and erudition required but to be known in order to be appreciated, while a little friendly encouragement, without flattery, helped to overcome the natural timidity and diffidence which might otherwise have prevented his ever attempting to set forth the Wisdom and Goodness of God, as evinced in his works ; and we have here the key to the discovery of why he was led to make this his peculiar study. No friend could have been found better adapted for these purposes than the learned and amiable Mr. Jones. It must not be imagined that there was a perfect uniformity in their opinions,—the matters which formed the principal topics of discussion admitted of various shades of opinion ; each possessed, in a large degree, that good common sense which would lead him to listen with respect and attention to the opinions advanced soberly by others. For instance, Mr. Jones saw the Judgment-day close at hand, while his younger friend saw many indications of its approach, but yet many things to be accomplished. The one,

* The Abbé Barruel was well known to his own countrymen as the writer of "Lettres Helviennes," a work of no less elegance than importance, in which he has been thought to rival Fontenelle ; and, in this country, by his "History of the French Clergy since the Revolution." But the work by which he is chiefly distinguished is, "Memoirs Illustrating the History of Jacobinism."

as he declares in his sermon, regarded the man of sin or antichrist to be a complication of evil spirits; whereas Mr. Kirby regarded passing events only as so many steps to a great and final consummation of all things, and looked to some distant day—he knew not whether in his own time or not—when there should be *one* great antichrist,—a single being reigning supreme, until the fiat of God should go forth to overwhelm him with a sudden confusion and destruction.* As the seed of the woman was one Christ, so also was the enemy who was to reign for an appointed time—the antichrist,—to be one single and individual being. There being no farther revelation which contradicted this, Mr. Kirby would contend that he was justified in taking the Word of God literally, and would always add, "God would reveal it all in his own good time,—that it was right every man should be on his guard lest he were engulphed in the evil, and should be ready—watching for the hour when the Lord should come." While their views might differ in some points, there was one object which was common to both these enquiring and deep-thinking Christians; and that was, to trace, wherever they could find it, the hand of God.

The letters of Mr. Jones, which I shall now add, are no longer those of ordinary acquaintance and friendship, but bespeak the respect and love of the writer; and they are the more to be regarded, as coming from one who on account of his extensive labours, and the service which he had rendered to his country, had a large field from which to select his friends: they answer a double purpose, recalling the memory of one who, admitting that he was sometimes mistaken in his theological opinions, as well as in

* This view has recently found able advocates in Mr. Maitland, in his "Letters on Antichrist;" and in Dr. Todd, in his "Lectures on the Prophecies relating to Antichrist."

his judgment of the result of passing events, stands forth as an unflinching and eloquent champion of the broad principles of truth; they tell us also of the manner in which he observed and admired the habitual working of Mr. Kirby's mind, as well as how thoroughly his society was appreciated by his estimable friends at Nayland.

The following letter is dated February 16th, 1798:—

"My dear Sir,—There is a worthy gentleman, who, though not lost to the world, has been so long unaccountably lost to me, that I have many times desired to find him again. What has so often passed silently in my mind I now express in writing. I wish he would come over to me next week. I cannot, indeed, treat him with the sight of a new beetle, as our friend Mr. Marsham* might do, but we shall find something to talk over in which we both are strongly interested, and if at our meeting we can kindle a light that may be of some service to the public, that will be the best of all. My wife was very ill last week, and frighted me, but she is at present better, and able to stir about: we become now old and well stricken in years, and cannot long expect to enjoy our friends; if they will come to us while they may, it will do us good, and them no harm..... Some events happen strangely to some people, and should serve as examples to encourage us: last Friday my dear companion was in danger of death, and thought herself to be very near it, and there is now 75 years against her, but today she has walked half a mile in pattens to make a visit to the sick, and seems younger than she was before.

"Yours most heartily,

"W. Jones."

The answer to this was an acceptance of the invitation, to which the following cordial and affectionate reply was returned:—

* Thomas Marsham, Esq., the first secretary, and afterwards the treasurer of the Linnean Society. Besides various communications to the Transactions of this Society, he published "Entomologia Britannica," 8vo. 1802. To this gentleman Mr. Kirby dedicated his "Monographia Apum Angliæ." Mr. Marsham died on the 21st of November, 1819.

"April 6th, 1798.

"My dear Sir,—The day you have chosen will suit us very well, and it is so long since I have met with a confidential friend, that I shall expect you with some earnestness. I have also a young companion or two, who having turned their eyes to botany, will listen to you with avidity upon that subject..... We will give you law, and not sit down to dinner till half-past three: so wishing you a good journey, *in your own way*,

"I remain,

"Most heartily yours,

"W. JONES.

"One swallow was seen yesterday before its time, which I set down on April 6th, at the earliest."

The gloomy prediction of a former letter was shortly after this verified. Nayland was no longer to be the happy resort of Mr. Kirby; at all events the spring and source of his pleasure was weakened and enfeebled. The earthly happiness of his friend had well nigh passed away with the fleeting breath of her "who had been his right hand,—the manager of everything about him,—one whose vigilant attention to his worldly affairs preserved his mind at liberty to pursue his study without loss of time or distraction of thought,—who knew and understood the wants of the poor better than he did himself,—his counsellor who generally knew what was best to be done in difficult cases, to whom also he found it of advantage to submit many of his writings,*—whose mind being little disturbed by passions was always inclined to peaceable and christian measures:" his loss, indeed, comprehended everything that was most valuable upon earth. Under these trying circumstances, it was the great pleasure and privilege of Mr. Kirby to administer consolation to his aged friend. The announcement of his sorrow is thus conveyed:—

* See a letter to Dr. Glasse from Mr. Jones, published in his "Life."

"I am in deep affliction: and without unceasing supplication to God I could not have endured it thus long. I hope you will add your prayers to mine, that I may be carried through. Near two months ago I began a letter to you, inviting you to Nayland; but I saw a black cloud gathering, which has now broken on my head: this gives me a farther reason for wishing to see you. I beg you will come over to me as soon as possible."

The interview must be passed over; although the blank could not be supplied, christian resignation bade the mourner not to sorrow as one without hope, and not to neglect his duty to the living, in lamenting for the departed. He still, therefore, corresponds upon his favourite topics in the following manner, where we may observe the same earnestness, although the cheerful tone is lost—

"..... I am ready to talk with you about the religion of nature, having been thinking and writing about it since I saw you; and what I have said will shortly be published; the idea of such a thing is as subversive of the gospel, as the doctrine of the Scribes and Pharisees was of the teaching of Jesus Christ; natural religion would have as certainly crucified him now, as the envy of the chief priests did then. God help us! I fear we have gone too far to return any more; but let us never give up the cause. Think of me, and believe me your faithful and sorrowful friend, "W. JONES."

Again he writes upon various matters which occupied his thoughts, and gives great insight into the cause which led Mr. Kirby to combine philosophical speculations with his theological studies: —

"Poor Dr. Hamilton of Dublin:* he was an ingenious man, and I knew his Essays well: but never thought his air menstruum any explanation; for what is menstruum, a hard word for a solvent, and how do solvents act but by attraction? so we are just where we were

* The Rev. Dr. W. Hamilton, rector of Fanet, in the county of Donegal, in Ireland. He was the author of "Letters respecting the

before..... You do not understand how the diurnal and annual motions are produced, nor do I; and I think no man upon earth can give any adequate solution of the phenomenon: the defect of Sir Isaac's account might soon be shown: I have come as near to it as I dare, in the application of mundane electricity,—not yet published ..... I hear from Oxford that some truth is getting into the University pulpit, which a man would not have dared speak twenty years ago; and by what I see it is greatly spoken. God send us new principles, for the old have nearly made the world uninhabitable, and people are now beginning to see it! I pray it may not be too late."

Nothing can show more strongly the attachment of these friends than the preference which was given to Mr. Kirby's society over that of almost any other. Mr. Jones writes—

"August 21, 1799.

"For months past I have been very ill and helpless, but thank God not so bad but that I could derive pleasure from the company of a wise friend..... As my son and daughter will be absent next week, I want somebody to supply their place, and I can think of none better than yourself, who may reflect that you are on a visit of great charity, which I will make as profitable and agreeable as my health will permit; and you know my library can say wise things when I can say nothing. Adieu.

"Yours, &c. &c."

The visit was not made, some great impediment standing in the way; it was again urged, if possible, in stronger terms—

"September 8, 1799.

"I could not see you when I invited you, but when shall I be like to see you? You are one of those few men whom I can wish to see in my weak state, and sorrowful circumstances; a more helpless

basaltic county of the North Coast of Ireland," and of many other philosophical papers. He fell a sacrifice to his exertions as a magistrate, for suppressing the spirit of insurrection which prevailed in the province of Ulster; being inhumanly murdered by a lawless mob, on the 2nd of March, 1797.

widower is no where to be met with. Great and perilous commotions do I hear of in the spiritual world, of which I wish to talk with you. Are you acquainted with a Mr. Lathbury, of Woodbridge, a worthy clergyman as I am told? All the true friends of the Church of England should know one another, and give a helping hand in the common cause. If you have not seen Mr. Daubeny's book* and Appendix, get it: a matter of great consequence which ought to be followed up. If political danger grows less, fanatical danger may still ruin us, if it be not looked to in time....."

The altered penmanship of this letter bespoke a quivering hand, and showed that the effort had been considerable; it was one amongst other warnings to Mr. Kirby, that the day was drawing near when he should have to mourn his separation from a friend so truly valued and beloved; it was the last letter that was received; and in the year 1800, on the 6th of January, the sorrowing and suffering Christian was released from the burden of his grief, and from the weight of increasing infirmity. The influence, however, of such an earnest man did not cease with his life, neither are we to seek it alone in the works which he has left behind; the great end and aim of all his labours was, to see God glorified by his works, instead of, as was too much the tendency of the day, the works of creation being made to obscure the glory of the Creator: his mantle descended upon one who had shown a sympathising spirit dwelling within him, who, once a candidate, seeking his acquaintance, had afterwards been admitted into the closest and most intimate friendship, and finally was himself the comforter and adviser of him, who may with justice be regarded as the first master in that day of his own peculiar branch of theological study.

* "A Guide to the Church," and "An Appendix to the Guide to the Church," by the Rev. Charles Daubeny, LL.B., &c.

CHAPTER IV.

Discussion with Mr. Evanson.—Mr. Kirby prepares a refutation of his works.—Mr. Kirby's friendship with Mr. Josiah Rodwell.—Advice given to him while at College, and upon taking orders.

In the days of coach-travelling, the route from Ipswich to Norwich lay through Claydon, a small village that had concentrated all its inhabitants into a very narrow compass, so as to give it the pretensions of a street. Here, at the sign of "The Crown," a respectable road-side Inn, there has been for more than a century a club established for the circulation of books, as well as for the purposes of friendly intercourse. Of this club Mr. Kirby was, immediately upon his coming to the curacy of Barham, elected a member. Upon one occasion the harmony of the meeting was considerably interrupted by the presence of one, who not only disturbed that little society, but had well nigh set the world on fire with his strange and destructive works. This person was Edward Evanson, already alluded to at page 37; the "good hands" that are there spoken of, being those of Mr. Kirby, who first came in contact with him at the Claydon Book Club. It was a memorable event in that little world, for a man like Evanson, with his shrewdness and wit, to advance opinions strange and unheard of, at least by the majority of the Society. It is always easier to bring forward objections advanced by ignorance, than to answer them from readiness or brightness of one's wits: so it was here; many who disapproved, yet knew not what to answer; but there was one who, notwithstanding the disadvantage under which he laboured, met the sophisms of the practised

fencer; but aware, as he himself expressed it, of his slowness of tongue, Mr. Kirby declared his intention of publishing a complete refutation of Evanson's Works, and gained at least this step, that the author thought it prudent to write a letter, giving up one of the main points which had been the subject of controversy.

The productions of Evanson, though happily forgotten, were the stirring topics of the day; they were hailed with delight by the sceptics of every shade, and while they exulted in their triumph, the hearts of many sank within them at the wickedness of these books; for not only did the writer advance that which was plainly erroneous, to misguide the unwary, but he made darkness appear light; and while professing great reverence for the revelation made by God, he made use of one part of that revelation to destroy the remainder. It would carry the reader into an unprofitable enquiry to attempt to describe the manner in which Evanson tried to defend his false positions; his works have sunk long since into the shades of error, and there is no longer fear of their becoming of any avail to the scoffer or the infidel, however they might have once been upon the surface, fair and promising.

To give a complete answer to this writer required more labour and skill than would at first sight appear to have been necessary: upon this Evanson built much for his security. The manner in which Mr. Kirby made his preparation involved much thought, and a very extensive perusal of the works of the Fathers, as well as of those who have critically handled the Scriptures in their original language. The progress that he made is thus stated in his preface to another projected pamphlet:—"It had been my original intention to have published an answer to Mr. Evanson's letter to the Bishop of Worcester; I had proceeded so far as to compose a defence of the primitive fathers of

the church,—an enquiry into the nature and force of their evidence of the authenticity of the Canon of the New Testament,—and a defence of the Gospel attributed to St. Matthew, and of the last 12 verses of the Gospel of St. Mark, which also included a harmony of the accounts given by St. Matthew and St. Luke of the resurrection of our Lord. Thus far I had proceeded, when Mr. Evanson's "Dissonance of the Four General Evangelists" surprised the public, and rendered all that had been done useless, without very considerable additions. The answer to that book ought to be a classical work on the Canon of the New Testament, with a preliminary discourse upon the nature of the evidences requisite to establish the genuineness of any writing pretending to admission into the sacred code: this undertaking the author declines, but at the same time thinks that he shall be rendering some service to the cause of truth, by pointing out the fallacies and mistakes, everywhere visible, in this gentleman's application of the New Testament prophecies."

From some cause or other, neither the original work, nor the smaller pamphlet, was ever published. The death of his father, which occurred in December 1791, involved him in much family business, and probably prevented his giving that time and attention which he thought due to a matter of such immense importance: he was also diffident of his own powers, and feared that he might injure the cause by giving the enemy occasion to triumph, from detecting any error or discrepancy in his statements; but judging from the contents of his MS. left behind, he need not have feared to have entered upon the task of refuting "The Dissonance" as well as "The Letter;" he would undoubtedly have proved the truth of the words of his preface, at least in the judgment of all reasonable men, where he says,—apologising for the delay in his answer,—"but perhaps after all you will think an apology not so necessary for delaying my answer,

as for undertaking it at all. For a raw and undisciplined recruit to stand forth as a champion,—for a stripling in literature to attack a Goliath of Gath, may seem to indicate presumption, the event and just punishment of which must inevitably be, to have his flesh given to the fowls of the air, and to the beasts of the field,—to be exposed to the resentment of all the enemies of Israel: but we know the race is not always to the swift, nor the battle to the strong; that neither learning nor persuasive eloquence can so adorn error as to make her wear the semblance of truth."

Why this second work was not published it is not easy to say; some one might have forestalled him, or perchance the interest was dying away, and it was thought wiser to let the works of the scoffer sink into their proper region of darkness and oblivion; so it was, that Mr. Kirby contented himself with reading a very learned paper at the Book Society at Claydon to those gentlemen who had been present at the original discussion: thus did he withdraw himself from a controversy, which, however he might have been supported in it by a sense of duty, must, from the peaceful habit of his mind, have caused him great disturbance, and robbed him of time which he would rather have devoted to the dissemination of truth, which is, after all, of far more importance than answering erroneous statements, which sooner or later refute themselves.

In his endeavour to do this, we shall find him not only very ready and willing, but very diligent and persevering; for the present, however, we must content ourselves with tracing the influence of his teaching through private channels, and for this we shall find him eminently qualified.

I have already pointed out the connection of Mr. Kirby with the family of Meadows by his mother's side; his subsequent history shows that he was scarcely less interested in other branches of the same family, from the friendship

and alliance which he formed with several of its members. Mr. Rodwell,* well known in the latter part of the last century as a practical and experimental agriculturist, married Elizabeth Meadows: by one of the sons of this marriage, Josiah, a very early friendship was formed with Mr. Kirby, who, ever ready to mark and encourage every promise of rising talent and unobtrusive piety, took the greatest interest in his welfare. There was a difference in their age of about fifteen years; this gave to the one a degree of authority in speaking, while on the other hand it was not sufficient to repress the freedom of the young man's expressions, which sometimes takes place from a fear that the thoughts of years' accumulation may have swept away the sympathies of those of youth. The tone of the letters which passed between them is frank and hearty; they introduce us to a youth, earnestly bent upon attaining the highest possible degree of moral perfection; assisted at one time by the encouraging language of his friend, and at another, when in danger of enthusiasm or self-confidence, warned in the same mild but persuasive manner. Josiah Rodwell, though not strictly a pupil of Mr. Kirby, yet passed much time at Barham Parsonage. He entered as a pensioner at St. John's College in the year 1792.

In March 1794, he received a letter from Mr. Kirby, from which I take the following extracts:—

"My time has been taken up in preparing some papers and insects for an entomological friend in London: you have my apology,—now for your letter. . . . . I should conjecture that the pamphlet men-

* Mr. Josiah Rodwell, born 1746, lived at Livermere, Suffolk, where he died Sept. 20, 1802. He received a Gold Medal from the Board of Agriculture for a letter addressed to the Board upon the improvement of poor land.

tioned by Dr. Hey,* as written against the Articles, must be a work of Anthony Collins, although I do not find any such work mentioned among his writings by Leland. If I find anything of the kind, I shall certainly think of your request..... The circumstances mentioned by you, show that the University wants great reformation in discipline, and that the reins of government are too lax; yet difficult it is to say how the evil is to be remedied. It originates in other places; boys seldom get any notion of self-government in schools, and it is too often the case, that parents, by foolish indulgence, and the neglect of wholesome restraint, give the passions such sway, that even when maturer years open before them the necessity of a conquest over these troublesome masters, they find it a task of the greatest difficulty; no wonder, then, that young men, when they come to College, and almost write themselves men, when they find how much their time, employments, and amusements are their own, should break out into the most extravagant sallies. The great art of human life is self-conquest, and the most useful science self-knowledge; the former is impossible without the latter, which, if men are careful and attentive to gain, it will preserve us from heresy and infidelity in religion, and from everything like pride and conceit, which is the cause of them. 'E cœlo descendit γνῶθι σεαυτὸν,' is a Christian sentiment from the pen of a heathen; as is also that of Horace —

Quanto quisque sibi plura negaverit
A Diis plura feret. (Substitute Deo for Diis.)

To restore to man what was lost in the fall—the image of God—was the great end of Christianity, and the main purpose of redemption: the Holy Spirit, working within us, enables us to live εὐσεβῶς, δικαίως, σωφρόνως, and these things are morally impossible without self-denial, and the reduction of all our evil and corrupt affections under the dominion of the τὸ ἡγεμονικὸν—the governing part of us, as the ancients called the soul, and as it ought to be. But enough—I have to trust to your goodness to excuse my being so serious. I would not have written so to every young man, as all have not good sense enough to be pleased with a friend who is serious with them, although with the best intention; but I have very different thoughts of you. If you approve of my freedom, tell me so. I was once a young man myself, and had occasion for the kind allowance of my friends, and hope I shall always be ready to render the same to others."

* John Hey, D.D., elected in 1780, the first Norrisian Professor of Divinity in the University of Cambridge. His Lectures in Divinity

The remarks of the Christian moralist were well and kindly received, as the answer testifies :—

"St. John's College, Cambridge.

"Your letter requires my warmest thanks and gratitude, whether I consider the wholesomeness and goodness of the observations you were so kind as to make on moral rectitude, or the true and genuine spirit of friendship, which, through a regard to my welfare, dictated them. A friend to whom a conversation on religious topics, and a discussion on that means by which both might attain the end of our being, would not be obtrusive, has often been the subject of my most earnest desire; the want of such a friend would be amply supplied were I favoured with a letter from you on the same interesting matter. Situated as we are here, where the actions of those we are most inclined to imitate are often depraved, and those of a more mature age, whose actions we are led to regard as models, are in the habit of not only disregarding, but almost contemning everything sacred and reverential, no wonder that a young man wants unusual assistance to act up to his principles. . . . . The first step which a young person in my circumstances ought to take is, I apprehend, to obtain a knowledge of our divine religion; and extremely happy should I be to have your instruction on this most important point. To know that part of the moral government of God which the Gospel unfolds, and to have all doubts removed, is most devoutly to be wished: I speak of doubts, which the following passage fully authorises :—Aug. Cont. Ep. Fund., cap. ii. n. 2, 3—quoted by Paley."

The gloomy picture here given of the state of the University was probably in the main true: it is, moreover, of some importance that it should be kept in view, as it pleads an apology for many who, in steering clear of the vortex of dissipation, struck on the rock of puritanism; or, in their dread of the spiritual slumber by which their minds were shocked, rushed headlong into fanaticism and enthusiasm. Happy was the lot of him who had so experienced and friendly a pilot, to point out the shoals and lurking reefs, as Mr. Kirby proved himself to be.

are published in 4 vols. 8vo., besides which he also published several sermons. He died in London on the 17th March, 1815, aged 80.

The next letter is in answer to one announcing, with a degree of exultation, that some College distinction had been obtained; it contains a most salutary caution :—

"I have to congratulate you, which I do very sincerely, on the honour and credit which you have lately acquired. I trust this will prove but a prelude to higher and more substantial honours, which I dare say your conduct and literary attainments will well deserve. I need not caution a young man of your good principles, and ingenuous disposition, to be upon his guard against the poison of applause, and the idea that because he has done well, that therefore he has done all,—

Servetur ad imum
Qualis ab incepto processerit, et sibi constet;

or, to use a higher authority from a book which I trust you daily read some portion of, *τα μὲν ὀπίσω ἐπιλανθανόμενος, τοῖς δὲ ἔμπροσθεν ἐπεκ]εινόμενος, κα]ὰ σκόπὸν διώκω ἐπὶ τὸ βρα]βεῖον τῆς ἄνω κλήσεως* — Phil. iii. 13, 14. Observe the extraordinary emphasis of the word *ἐπεκ]εινόμενος*: our business in this life is always to *press forward* after higher and higher attainments, especially in that race where every one that runs may obtain, and every competitor be crowned with equal glory, if it be not his own fault. Go on, my young friend, as you have begun; seek for wisdom, and get understanding, 'for the merchandise of it is better than the merchandise of silver, and the gain thereof than fine gold: she is more precious than rubies, and all the things that thou canst desire are not to be compared unto her' . . . . Depend not, my friend, upon your own endeavours only (though these are necessary), but on the divine blessing; for 'the Lord giveth wisdom, out of his mouth cometh knowledge and understanding; he layeth up sound wisdom.' Pray for his blessing and assistance in your studies, and that he may direct them to his honour, and the good of his church; and that you may be a Scribe, 'furnished unto the kingdom of heaven, bringing forth out of your treasure things new and old.' . . . I have not forgot the promise I made of drawing up for you a short account of what appears to me to have been the original state of the Protoplast. A real insight into this matter seems to be an excellent clue to true Christianity: it is a two-edged sword, which may be employed with equal success against the enthusiast and the rationalist. Have you had time to read Ellis? the argument from fact and experience is very convincing.

The wisest men of the ancient world were lost in inextricable mazes of error, when they reasoned concerning the nature and being of a God,—of the human soul,—and all similar subjects. These subjects are not discoverable by unassisted reason: indeed, this certain, though humiliating fact, shows us how little we can depend upon reason, in the discovery of theological truth: 'by grace we are saved through faith, and that *not of ourselves*,—it is the gift of God.'—Ephes. ii. 8. See, again, chap. i. verses 17 and 18. Well, I think I must have tired you; but you will take this from whom it comes, a well-wisher to your best interests.

"Yours, &c."

Perhaps the most striking feature in this correspondence is the knowledge which Mr. Kirby evinced of human nature, and his great dread lest vanity or pride, in any shape, should treacherously obtain the mastery, even over those seeking after the right path. He is also continually enforcing the necessity of handling deep things with humility and caution: hear him on this subject:—

"There is no such thing as studying spirit but through matter: in metaphysics I fear we too generally reason and draw conclusions without sufficient data; they are an unfathomable ocean, in which it is dangerous to trust yourself too far. The Scripture precept should be borne in mind,—'be not wise above what is written.' I do not say this to discourage you from any studies of this sort, but to put you upon your guard; you cannot be too much so against writers of unsound principles; it is not always that we can develope the fallacy of arguments, nor distinguish the verisimile from the verum. Verbum sat sapienti."

The young student had not only the warning voice of a friend; the events of his College life proved to him the uncertainty of obtaining in this world those things which we most desire. He had taken great pains in preparing an essay for the Norrisian Prize, but by some mistake it never reached the hands of the appointed judges: in the list of mathematical honours, although in a very creditable place, he was

not so high as his tutors led him to expect. The previous language of warning is now changed by his friend into that of consolation :—

"I learnt with concern the unfortunate mistake which happened with respect to the delivery of your essay. We must expect to meet with many disappointments in our endeavours after those prizes which are at man's disposal ; but there is one prize of which God is the giver, which, if we earnestly strive after, we know there is nothing on earth can disappoint us of: but these reflections I need not suggest to you."

In like strain, combining instruction with consolation, he writes in reference to the disappointment which was felt upon taking his degree :—

"When our minds are absorbed by one pursuit to the exclusion of every other, except it be the great business for which we were sent into this world, it often happens that we are seduced by it to neglect the most necessary duties ; and in such cases it is love and mercy in God to disappoint us, until we consent to make our most favourite studies subordinate to our duty to him. In two instances you have been disappointed—a warning for you not to seek the honour that cometh from man, so much as that which cometh from God only. If you firmly fix this Scripture doctrine in your mind, that nothing happeneth in this world—not even a sparrow falleth without God's fiat, you will always be prepared with equanimity to bear any disappointment that He in His wisdom shall see good to exercise you with. Trouble, and sorrow, and disappointment came into the world when sin first entered it, and all sinners must expect to meet with them, and must cheerfully bear them. The Captain of our Salvation bore the severest and sharpest of them for us, and his words are, 'if any man will come after me, let him deny himself, and take up his cross and follow me.' I say all this, that you may not too eagerly set your heart upon gaining the medal, or any other prize, but sincerely beg of God to give you that which is best for you. I have no doubt you will take all I have said in friendship : 'the kisses of an enemy are deceitful, but faithful are the wounds of a friend.' . . . ."

Shortly after, he writes:—"I am very glad you are not to be ordained until Trinity Sunday. My advice to you is, to engage in nothing, and with nobody, that can in any degree hinder you from preparation. Amongst other books, read Beveridge's first volume of Sermons."

He subsequently gives directions for reading prophecy, which perhaps had reference to some particular point of inquiry:—

"I have been running through all the Old and New Testament, with a view to your wants, and have collected all the passages which appear likely to bear upon the subject; we may add to these the assistance of Joseph Mede and Bishop Newton. Especially I call your attention to the curious parallel drawn by the former between the conversion of St. Paul and the future one of the Jews; we may also pick up something from Daubuz, Lowman, Sir Isaac Newton, and Vitringa, which authors I have. . . . . And now, my good young friend, the time is approaching when you are to devote yourself to the service of God, and to minister in his family. I make no doubt that you frequently turn your mind to that solemn day, with prayer that you may become useful to the flock that he hath purchased with his own blood (Acts, xx. 28)—a chapter well worthy the attentive perusal of every minister of the Gospel. I assure myself that you turn to your studies with as much avidity as you did to mathematics; and may the blessing of Christ be with you, is the fervent prayer of

"Yours most affectionately,

"W. KIRBY."

In due course of time Mr. Rodwell was ordained, having the curacy of Claydon, which adjoined Barham, for his title. Here he had abundant opportunity of profiting by the advice as well as by the personal example of his friend. Not only did he see much to admire in the close application of Mr. Kirby to his professional studies and duties, but also in the happiness and enjoyment which was derived from his recreations, more especially from that which was then his favourite pursuit—Botany. In 1796, Mr. Rodwell, having

removed from Claydon to Witham in Essex, and feeling acutely the loss of his friend at Barham, contemplated pursuing botany as an amusement, and wrote to Mr. Kirby upon the subject, who returned the following reply, characteristic of his usual caution and sound common sense:—

"....With respect to botany, you cannot pursue a more pleasant or rational amusement, one that will make every walk interesting; and next to the *Word* of God, His *works* certainly deserve our attention. In both of them he speaks to us, and they both confirm each other. 'The works of the Lord are great, sought out of all them that have pleasure therein,' saith the royal Psalmist. And one part of the wisdom of Solomon was a knowledge of the works of creation; for he spake of trees, from the cedar tree that is in Lebanon even unto the hyssop that springeth out of the wall; he spake of beasts and creeping things, and of fishes,—so that he was a naturalist. There is one thing that we must guard against: the study of natural history is very bewitching, and, as I know by experience, very apt to engross too much of our attention. The best introductory treatise I am acquainted with is Lee's Introduction to Botany. From this make yourself well acquainted with the parts of fructification, and then study the Linnean system, so as to have the classes in your memory; at the same time endeavour to find out the parts of any large flower. When you know these pretty well, endeavour to discover the classes and orders; and after you are pretty perfect in them you must get an English Flora, where you will find all the plants you meet with described and named. I wrote out some time since, for Pettiward and Davie, a compendious table of the parts of fructification, as well as the classes and orders, but I cannot find the whole of it, or would send it..... If you have not read Potter on Church Government, I recommend it to you, to give a right notion of the constitution and offices of the Christian Church."

CHAPTER V.

Mr. Kirby studies Entomology.—Incident which induced him to do so.—His Tutor in the science.—Foundation of the "Linnean Society."—Mr. Kirby contributes to the Transactions of the Linnean Society.

THE diligence with which Mr. Kirby pursued the science of Botany, rendered him a proficient at an unusually early age; he had exhausted every spot within his reach,—had searched every wood and every ditch,—had made excursions in various directions,—was intimately acquainted with the structure of the greater number of plants common to our island, and knew by report the characteristics of many of the remainder; he had learnt also their uses and their habits There were certainly branches of the study by no means exhausted, but these were not such as to supply with sufficient rapidity a grasping and devouring mind. As to those plants which grew around him, he still admired them for their beauty, and found his daily walk was enlivened by the graceful forms and varied hues which met him at every turn; but there was lacking that exciting pleasure which the sight of each new specimen once had brought him: his now was the delight of a well-stored memory, and as he met the old familiar friends, the pleasure derived was from their intrinsic beauty, or from association of ideas connected with past discoveries; there was seldom now that charm which once existed in adding directly to his stock of knowledge and information. It was well, then, for him, as well as for the world, that he was introduced to the study of Entomology, which presented to him at once an expansive field, the investigation of whose riches called forth the yet

latent powers of his energetic and capacious mind. Mr. Kirby's writings upon this subject are so well known,—so renowned are they for the erudition and learning which every page exhibits, and for the simple and lucid manner in which every subject is handled, that perhaps I shall scarcely be pardoned for having so long delayed to enter upon that which has given his name so exalted a position in every civilized nation. The true object of biography is not merely to preserve a record of personal facts (although this is useful in its way), but to present a faithful picture of our fellow man, and in doing this we must make every use of light and shadow; shewing how, by taking advantage of gentle zephyrs, one may speed upon his course, while another, idly waiting for more powerful gales, remains becalmed, and loses his voyage. To tell *what* has been done would be comparatively useless; to tell by *what means*, or by what assistance, so vast an amount of knowledge was acquired, and to show how channels were opened to him, or rather how he discovered channels by which he could impart that knowledge to others,—this I conceive to be of the utmost importance: here, indeed, a deep moral may be drawn from this tale of real life.

I have left the subject of Entomology to this period, because I believe other matters hitherto possessed a much larger share of Mr. Kirby's thought and attention; and it was necessary to refer to them, to give an insight into his real character more clearly than is developed in, or than can be gathered from, his writings. We find from these traits of character (as well as from others which will appear afterwards) that other circumstances, besides that of a knowledge of natural history, combined to call forth that love and veneration which has been so universally accorded to his name; his example is one applicable to every man, be his vocation what it may:—nor let the lover of his cherished

science think that any slight is cast upon it; on the contrary, let him congratulate himself on having one of her sons to whom he can point, who, though he knew the charms of other studies, yet chose this, after mature thought, as that upon which to devote the largest portion of his time and abilities. Here he has an example of one who had long been accustomed actively to employ his powers and talents for the benefit of others, as opportunity offered; now he will find him penetrating into the very depth of the mysteries and arcana of the science, yet possessed of a mind as unfettered and elastic, and a heart as warm and generous as before; he will mark graces and virtues which dawned in early life, not only remaining unsullied and untouched, but by the direct, as well as by the indirect influence of the study, his faith, his hope, his charity, induced yet farther to expand and vigorously to flourish.

The enquiry has often been made what first led Mr. Kirby to the study of insects: the answer is supplied in his own words, fortunately not merely preserved by oral tradition, but to be found in a written statement conveyed to a lady through his friend Mr. Helsham, a naturalist of rare and singular promise, cut off in the flower of early life, ere the world could enjoy the fruit of his labours. The following letter accompanied the statement, which was made in the year 1835:—

"Barham Parsonage, November 12, 1835.

"My Dear Sir,—I have had so many things to occupy my time and thoughts, that I quite forgot that Mrs. Blaine's request had been so long made; with great pleasure I have written an account of the incident that first led me to the pursuit and study of insects: this in its consequences was the most important era in my life, as it occasioned me to become an author, and finally one of the Bridgewater nominees..... I beg you will apologise to Mrs. Blaine for my long neglect of her request, which nevertheless was very flattering to me.

"I am, my dear sir,

"Yours very truly,

"Wm. Kirby."

The following was the statement :—

"About half a century since, observing accidentally one morning a very beautiful golden bug creeping on the sill of my window, I took it up to examine it, and finding that its wings were of a more yellow hue than was common to my observation of these insects before, I was anxious carefully to examine any other of its peculiarities, and finding that it had twenty-two beautiful clear black spots upon its back, my captured animal was imprisoned in a bottle of gin, for the purpose as I supposed of killing him. On the following morning, anxious to pursue my observation, I took it again from the gin, and laid it on the window-sill to dry, thinking it dead, but the warmth of the sun very soon revived it; and hence commenced my farther pursuit of this branch of natural history."

If we critically examine the above, we shall perceive that the unusual appearance of the insect led him to desire its examination: its tenacity of life, and the being foiled in his attempt to kill it, were the immediate steps to the study of Entomology. Whether the statement was intentionally worded with so strict a regard to accuracy as to cause and effect, it is difficult to say, nor is it material; it is sufficient to know that the facts of the case were in accordance with this communication: the finding of a lady-bird of by no means an uncommon species, was, indeed, the first step, and a trivial one, to an important end; but the difficulty of destroying life so as to preserve the insect, *this* led him to enquire what method he should pursue, and to seek advice from one experienced in such matters. He had a learned friend in Ipswich with whom he had enjoyed many conversations upon Botany: to him he told his tale, and related his dilemma: the subject was enlarged upon, and led to a general consideration of the advantages to be derived from a study of insect life. A worthy pupil found no mean preceptor in one who himself had drank copiously at one of the most liberal fountains to be found in Europe. The friend to whom I refer was Dr. Nicholas Gwyn. By the

kindness of the descendants of this gentleman and their friends, I have been enabled to collect the following particulars:—

He was born on the 14th of July, 1710, being descended from the family of Gwyn, of Baron's Hall, near Fakenham, in Norfolk, which fine old mansion was taken down, on account of its dilapidated state, about forty years back, and a modern house built nearly upon the site; in this still exists a very fine carved oaken chimney-piece, enriched with armorial bearings, taken from the ancient hall. At a very early period of his life, Nicholas Gwyn was sent to Leyden to pursue his studies. He was a pupil of the celebrated Boerhaave, and subsequently became his friend. Upon the death of his father he inherited the paternal estates in Norfolk: this, however, did not induce him to relinquish his literary pursuits, and it was some years before he returned to England. At a late period of his life he settled in Ipswich, where he died in the year 1798, and was buried at Rushmere, in Suffolk: he was twice married, but left no issue; his estates passing into the hands of his cousin, Hamond Gwyn, Esq., by whose sons they are now enjoyed. A mural tablet, in the Parish Church of Fakenham, records his death and burial-place in these words:—

To the Memory of
NICHOLAS GWYN, M.D.
Of Baron's Hall in this Parish,
who Died at Ipswich,
January 20th, 1798, aged 87 years,
Whose mortal Remains are deposited in the Churchyard of
Rushmere, in the County of Suffolk.

From this tablet I was led to trace the history and position of one who had so important an influence upon Mr. Kirby's movements, and have been forcibly reminded of the truth, that "out of monuments, names, wordes, proverbs,

traditions, private records, and evidences, fragments of stories, passages of bookes, and the like, doe we save and recover somewhat from the deluge of time."*

To return to our narrative: Dr. Gwyn pressed upon the attention of his friend that the study of Entomology would afford him much delight; that even had he been less a proficient in Botany, he would not find the new study antagonistic to the other, but that both might be advantageously pursued together: as to any assistance in his power, it was cheerfully promised, and readily accepted; and though now in his 75th year, so much was the good old doctor interested in the pursuit of his friend, that he would frequently walk over to Barham, a distance of five miles, to see what had been the success of recent perambulations. The parsonage-house was then approached by a narrow wicket, with posts higher than the gate, and often, while working in his garden, or sitting in his parlour, Mr. Kirby would look up and see, to his great delight, the shovel hat of his facetious friend adorning one post, and the cumbrous wig and appertaining pig-tail ornamenting the other. And soon the kind old man would walk in with his bald head, as he used to say, cool and ready for the investigation. These visits were always hailed with pleasure, the delights of which were still fresh in the memory of Mr. Kirby, and would call forth expressions of affectionate gratitude, even when nearly half a century had elapsed, after his friend, and Mæcenas, as he loved to call him, had gone to his rest.

Additional pleasure and interest was now imparted to those scenes with which Mr. Kirby imagined himself perfectly familiar. It is impossible, indeed, to form any adequate idea of the value of the accession which was now made to his pleasures and enjoyments: it was almost like a new

* Lord Bacon.

and exquisite sense being added, and might be almost compared to the removing the scales from the eyes of one born blind, and thus enabling him to gaze on the verdant landscape, or to contemplate the glories of the firmament. Such, indeed, was the view which he took of the matter himself,—the woods, the fields, the ditches, the very stiles and gates, and trees and stumps, abounded in treasures to awaken his enquiry and to call forth his wonder. Indeed, the pursuit was one requiring almost undivided attention; for, although fascinating in its subjects, it was not so as to the means of becoming scientifically acquainted with them: for this purpose great perseverance and diligence were necessary, from the want of books to assist in the introductory and elementary parts: in those works which did treat of Entomology, there was often so great a want of perspicuity, that they were rather calculated to puzzle than assist the beginner, from the general imperfection of classification and description.

It would be difficult to name any science for which so little had been done to bring it within the compass of an ordinary student. Mr. Kirby, however, could never be regarded in this light, and anything which he thought worth his knowing, he thought worth his pains. The time which he had spent upon other kindred studies was not all lost on Entomology; the diligence with which he would extract long passages from foreign authors, whose books he could not afford to buy,—the accuracy with which he would make his own observations in Latin, and the care which he would bestow in making drawings to familiarise his eye with the more hidden structure of the objects which engaged his attention, these had put him in possession of most valuable habits with which to approach this new employment.

He had learned and admired the precision and accuracy with which other sciences had been reduced to a systematic

arrangement; he had carefully marked distinguishing characteristics, and had become experimentally acquainted with the advantages and disadvantages of making new orders and new genera, as fresh discoveries were brought to light, and as those characteristics were more or less marked and defined: so that although, comparatively speaking, he took up the study somewhat late in life, he came to it with a mind happily prepared and trained for the purpose: this will account for the rapid strides which he made, while at the same time he pursued with equal diligence the functions of his sacred calling. Nothing tends more to impart interest to a study than the power of making our own knowledge, when acquired, useful to others: for this purpose the press is our great and essential instrument: but beyond, and altogether apart from this, which affords pleasure to every right-minded man, there is a personal advantage in committing our thoughts to paper: "Reading makes a full man; conference a ready man; and writing an exact man; and, therefore, if a man write little, a man need have a great memory."* It needs no argument to show how much more pains a writer is disposed to take when he knows that his pages will be subject to keen criticism; nor need we expend any time in pointing out how forcibly the words of the great man quoted above, apply to the pursuit of a study in which there are such continual temptations to hazard conjectures, or to work upon false hypotheses. Writing, then, is necessary in order to make sure that we are possessed of clear ideas, and writing for public inspection is a still farther incentive to bestow pains and care upon the work. But even in these favoured days of education, when Natural History has been brought from the background, and given a place more befitting the study of the works of God, only those who have made the attempt know

* Lord Bacon's Essays.

how great the pecuniary risk is in publishing books on any branch of science, especially if they contain lengthened descriptions couched in technical language.

When we reflect upon the numbers who by their pens, as well as by verbal descriptions, could assist each other if the means were afforded them, we cannot attach too much importance to any circumstance which has tended to remove this difficulty. When Mr. Kirby commenced the study of Natural History, there was not any institution in this country expressly devoted to its interests; there had been no public body of men enrolled, or by any bond united, for the purpose of "preventing all the pains and expense of collectors, all the experience of cultivators, all the remarks of real observers, from being lost to the world."* The only Society that at all stepped forward to supply the want, was the Royal Society; but it was clearly incompatible with its plan, engaged as it was in all the branches of Natural Philosophy, to enter into the minutiæ of Natural History. But almost immediately after Mr. Kirby entered upon his entomological researches, an opportunity was afforded to naturalists for holding intercourse with each other, as well as for publishing occasional and detached papers, without incurring any pecuniary hazard.

In the year 1788, Dr. Smith (afterwards Sir James Edward Smith) laid the foundation of the Linnean Society, and having been elected their first President, read before the members a valuable introductory paper, giving a sketch of the advances that had been made in Natural History in various countries. With a view to farthering its interests in this country, he entreats that a generous welcome might be given to all proffered communications, that the most diffident might not fear an unfavourable reception for his

* Introductory Address to the Linnean Society, delivered by the President: Linnean Transactions, Vol. i. p. 1.

contribution. His words are : " the slightest piece of information which may tend to the advancement of the science we should thankfully receive. However trifling in itself, yet combined with other facts it may become important. Whatever relates to the determination of species, even in the lowest and seemingly most unimportant tribes of Nature's works, ought not to be neglected. Nor let the humble and patient student of this very difficult part of Natural History be discouraged by the sneers of the supercilious coxcomb, or of the ignorant vulgar. He who determines with certainty a single species of the minutest moss or meanest insect, adds so far to the general stock of human knowledge, which is more than can be said of many a celebrated name."*

The learned president did not confine himself to precept, but set before the world a noble example of liberality : he closes his address by offering all in his power to assist his fellow students ; and how great that *all* was, we may learn from his own statement. " A train of events which I cannot help calling most fortunate have brought into my hands everything which Linnæus possessed relating to Natural History or Medicine,—his entire library, manuscripts, and the correspondence of his whole life, as well as all the acquisitions of the younger Linnæus, in his tour through Europe after his father's decease, but which his own premature death prevented him from communicating to the world : all these will be a never failing resource to us in every difficulty, as well as a fund of information not easily exhausted. For my own part, I consider myself a trustee of the public. I hold these treasures for the purpose of making them useful to the world, and Natural History in general."†

* Linn. Trans. Vol. i. p. 52.

† Ibid. Vol. i. p. 54.—The manner in which Dr. Smith came

Whether Mr. Kirby took any part in the first establishment of this important Society is doubtful; his residence in the country and his retired habits lead to the supposition that he did not; he was, however, one of the original members,—his name appearing, with those of his friends Sutton and Lathbury, in the first list of Fellows.

On the 7th of May, 1793, Mr. Kirby contributed his first paper,—"A Description of Three New Species of Hirudo,"—they were *H. alba*, *H. nigra*, and *H. crenata*. His opening remarks bore the stamp of his usual modesty: he says, "being desirous of adding my mite to the treasures of the Linnean Society, I take the liberty of offering a description of three species of Hirudo, which appear to me nondescript."* He concludes his descriptive paper by questioning whether the two first, as well as the *Hirudo viridis*, described by Dr. Shaw, properly belonged to this genus; and it must have been a great encouragement to him to find the learned doctor declaring that he believed

possessed of these papers, is thus related in the "Lives of Eminent Naturalists." "Madam Linnæus, upon the death of her son, fearing that the collections of her husband might be seized by the government, according to a law of the country which invests the state with a right of inheriting part of the effects of the deceased, in all cases where he has exercised any of the functions connected with professorships in the universities, made an offer of his herbarium and library to Sir Joseph Banks. The offer was declined by him, but he mentioned the circumstance to Dr. Smith, who gladly availed himself of an opportunity of becoming the possessor of such a valuable treasure. It is said that the king implored the widow to preserve for Sweden those precious collections, promising himself to reimburse her for any loss she might suffer from a breach of contract. But it was too late; the treasure had been already embarked on board an English vessel. An armed frigate was sent in pursuit, but she only gained upon her rival sufficiently to experience the mortification of seeing her enter an English port, to land in safety the cherished relics."

* Linn. Trans. Vol. ii. p. 316.

Mr. Kirby to be unquestionably right, for there could be no doubt that the two first were *Planariæ*, and that *H. viridis* came so near *P. viridis* as to make it doubtful whether they were really distinct, or only varieties.

Mr. Kirby's next paper is entitled,—"A History of Three Species of Cassida."* Mr. Marsham, in a paper upon *Phalæna* (Bombyx) *lubricipeda*,† observes that we ought to know the history of the different states of each particular insect, because many species that appear similar in their larvæ are totally different in their perfect states, and vice versâ: thus the maggot of the apple and that of the nut are scarcely to be distinguished by the casual observer, but yet when arrived at perfection it is scarcely possible for two insects to be found more unlike: the one a beautiful little moth, the other a remarkable beetle of the genus Curculio." Mr. Kirby, struck with the importance of this passage, and having watched the progress of the change in three insects, viz., *Cassida liriophora*, *C. viridis*, and *C. maculata*, gives the result of his observation. In the first place he calls attention to the comparative ease with which the same course may be pursued by any one desirous of making the experiment: he says,—"The insects of the coleopterous class in general are little known in their previous states, on account of the difficulty of discovering their natural situation and proper food: yet this difficulty does not extend equally to all of them; for those of which I am about to give the history require less attention to nourish and bring to their perfect state than most even of the Lepidopterous insects: there is no danger of their escaping, even though they be not confined in a box. All that the breeder has to do, is to put a piece of the plant upon which he discovers them into a phial of water, taking care to supply them with fresh

* Linn. Trans. Vol. iii. p. 7.
† Ibid. Vol. i. p. 68.

food when necessary, until he finds that they are preparing to change into the pupa state, which he may easily know by their ceasing to feed, and by their casting off the covering under which they are concealed: then he is to take the leaf to which they have affixed themselves, and put it under a glass until the imago is discovered, which will be in ten or twelve days."

The history of the progress of the three insects then follows: it is contained in a very accurate description of them in their different states of Larva, Pupa, and Imago. These descriptions are here omitted, as, being written in technical terms, they would prove of little interest to the general reader.

The study of Entomology has been so powerfully advocated in the "Introduction," that it would be difficult to find more forcible arguments to bring forward in its favour; the present Memoir of Mr. Kirby, so far as the events of it arose out of this subject, pleading more persuasively and eloquently than any thing which can now be written.

Amongst the important results to be referred to the trifling incident of the Lady-bird, related in a foregoing page, we must not omit one to which Mr. Kirby himself always gave a very prominent position; and that is, the very many friendships which he was led to form. Often was he introduced to men of learning and of worth, simply from the fact of their becoming accidentally aware that they had minds which were interested in, and bent upon, the same subject of enquiry. It would, indeed, be difficult to find any study which, if actively followed up, would conduce so much to the formation of an extensive acquaintance as that of Natural History. The advantages to be derived from this pursuit are strongly illustrated by the worthy biographer* of Linnæus, who tells us that in consequence

* Dr. Pulteney.

of his great fame and reputation he had friends in every part of the world, who vied with each other in sending him all the objects of Natural History they could procure; and this they did so liberally that he scarcely felt the disadvantage of his northern situation.* History, Mathematics, Poetry, Theology, and all studies of this description, may be pursued to a great extent, without any intercourse with those who are engaged in like pursuits. And not only so, but often the abuse of these studies has helped to engender, or to foster, a selfish spirit; it has dried up the springs of human sympathy, and rendered the keen and eager follower after knowledge a being wretched in himself, and useless to his fellow creatures. In whatever other way the pursuit of Natural History may be abused, into this snare it seems impossible for it to lead us; for it not only encourages the formation of extensive acquaintance, but absolutely demands it; and perhaps, of all its branches, Entomology stands first in its claim for this award of merit. It is true, indeed, that botany, conchology, and every other branch of zoology, may be said to be almost beyond the reach of any single individual, and so promote a readiness to seek friends, and a corresponding readiness to return their favours. But, in one of these studies, we find a difficulty exists in conveying actual and perfect specimens, to verify or illustrate descriptions; in another we find ourselves limited to certain localities, and these frequently the most inhospitable and inaccessible; while in the rest we find the specimens we would desire to see are driven beyond the reach of man, and seldom cross the path of an ordinary traveller: so that the collecting them amounts to a business, rather than a pleasing pursuit which can be combined with other occupations. None of these difficulties attach to Entomology:

* See Dr. Smith's Introductory Discourse to the Linnean Society.

the world is open for friendly communication, and interchange of civilities and information. No country so barren but it has its insect inhabitants; and they may be collected at the very edge of the cataract, at the summit of the mountain, or in the burning plain. The traveller, if he uses any observation at all, will be continually delighted with novelties in form, in colour, or in habit; and only ordinary care is required to forward the specimen itself in the same perfection as to its characteristics, as when sporting in life: nor is it necessary to travel far; even those residing only a few miles apart, have abundance of opportunity for conferring favours, and winning the gratitude of an entomologist, by forwarding specimens for his cabinet, or inviting him to view, in a state of life, insects which are wanting in his own neighbourhood. But this subject is beyond my province; it has been so ably handled in the "Introduction"* that I must transcribe the passage there, and leave the reader to observe how fully that statement is borne out in the history of its authors:—

"If you collect insects, you will find, however limited the manor upon which you pursue your game, that your efforts are often rewarded by the capture of some nondescript, or rarity, at present not possessed by other entomologists; for I have seldom seen a cabinet so meagre as not to possess some unique specimen. Nay, though you have searched every spot in your neighbourhood this year, turned over every stone, shaken every bush or tree, and fished every pool, you will not have exhausted its insect productions. Do the same another and another year, and new treasures will continue to enrich your cabinet. If you leave your own vicinity for an entomological excursion, your prospects of success are still farther increased; and even if confined in bad weather to your inn, the windows of your apartment, as I have often experienced, will add to your stock."

* "Introduction to Entomology." Introductory Letter.

CHAPTER VI.

Journal of Mr. Kirby's Excursion with Mr. Marsham to Northamptonshire.

Long is the list of the names of those who became not only acquaintances, but intimate friends of Mr. Kirby, from the simple fact of their being engaged in the study of insects. Here we have strongly brought before us one amongst many of the pleasing results of the happy, we may say providential circumstances, which induced him to take up entomology; thus leading him, pre-eminently formed as he was for social intercourse, to a road, in which he could not only have his own taste gratified, but could in his firm and enduring friendships enliven many a kindred spirit, — instruct the enquiring from the storehouse of his knowledge, — impart life and rational enjoyment to many a scene otherwise desolate and barren; above all could give a tone to everything connected with morality and religion so cheerful, that valuable lessons were often learnt while in the pursuit of pleasure, and many a mind invited and encouraged to try the pleasant way of peace, instead of being driven back in fear and dread at the dark and gloomy mantle by which true wisdom is too often shrouded and obscured.

One of his earliest entomological friends was Mr. Marsham, already incidentally referred to by Mr. Jones: that allusion might have been to some visit to London, or, as is more probable, to the circumstance of their having made an excursion together.

The following extracts are taken from a very pleasing and

simple narrative by Mr. Kirby's own pen: from it we may gain considerable insight into the points of character which are more plainly exhibited by a few words of his own, expressing a passing thought, than they could be by pages of description.

"Journal of an Entomological Excursion into the Isle of Ely, Northamptonshire, and home by Huntingdonshire, Cambridge, and Norwich: made Anno Domini 1797, by Thomas Marsham, Esq., F. and Sec., L.S., and William Kirby, Clk., F.L.S. Par nobile Fratrum.

"July 2nd.—It being determined by my friend Mr. Marsham and myself to take an entomological tour, with the view particularly of collecting insects in the fens of the Isle of Ely, we mount our vehicle at Barham at 4½ P.M. We pass through Stowmarket, and reach the little town of Woolpit at twenty minutes past 6. After the hardships suffered last year from real or pretended scarcity, we were delighted to see the crops look so well, and promise so abundant an harvest. Woolpit Ship received the travellers, an inn not of the first nor of the second rate, but a decent third. At 20 minutes past 7 we leave Woolpit, and arrive safe at Bury, after nearly oversetting, at 9 exactly. We took up our quarters at my favourite inn, the One Bell; from thence run down to Sir Thomas Cullum, who, with his usual hospitality and good humour, would scarcely suffer us to quit him. Reader of this MS., whoever thou art, let not the dulness of this beginning deter thee from proceeding; for know that the head and nose of the writer are at this time in the hands of a pitiless creditor, who is wringing from them the very last mite that they possess. If thou enquirest who the monster is, thou mayest conjecture from the above description, especially as it is probable thou hast erst been in his clutches: he could, however, neither prevent

my making an excellent supper, nor interrupt my rest at night. I could not help admiring a travelling companion of my friend, a most delectable, diminutive pillow, upon which his cheek reposes every night.

"July 3rd.—At 7 we rise, and are sorry to observe a very unpromising morning, and little prospect of proceeding early upon our expedition. We walk down to Sir Thomas Cullum's, according to our promise, to take our breakfast: the rain continuing, we thankfully accept his invitation to dinner. In the interim we amuse ourselves with various objects of Natural History. Our host, whose attention is directed to every branch of this study, and whose observations add something new to every object that he attends to, shewed us a specimen of *Mus agrestis*, and observed to us how accurately this species is described by the masterly pen of Ray. He informed me that he had found *Tillæa muscosa*, near Nacton: he likewise explained to us two terms of Linnæus in Ichthyology, which I had not understood perfectly before,—viz., oculis dextris and oculis sinistris; you must lay the fish with its belly or ventral fin next to you, with its dark or upper side uppermost; then, if the head be to the right, it is oculis dextris, if to the left oculis sinistris. I learned that in the first feather of the wing of *Hirundo apus*, the rachis on the outside is dotted with white. Sir Thomas has a very good library in Natural History, and he is very attentive to bind up with any particular book every extract from newspapers and books, that have any reference to its contents or to its authors. After dinner the rain came on with increased violence until half-past 4, when the sky began to clear, and gave us hopes of a pleasant evening's drive to Mildenhall. Return to the Bell to pay our bill; the charge we think very moderate,—3s. only for a very fine duck and a quart of

green-peas. We set off for Mildenhall, as we suppose: but how inconstant is man, how little to be depended upon in his most settled resolution! no sooner did we arrive at Saxham, where the road turns off, than alarmed at that via regia, and at the indefinite term of a cart road, given it by a countryman who was passing by,—seduced, moreover, by the delusive attractions of the broad and beaten way, which leads to the place where ruin and destruction too often seize the unhappy visitor whom the love of pleasure or the hope of gain leads thither,—we give up our intention, and proceed for Newmarket. Hitherto I had held the reins, and driven with a very steady and sober pace; but here, my friend, alas! too eager to reach this fatal spot, snatches them from me, and by frequent applications to the sides of our reluctant steed makes her spring forward with accelerated velocity; so that two hours bring us from Bury to where the Ram, wide opening his ravenous maw, stood ready to devour us; our horse's reins are seized by the inferior fiends, while the enormous king of those dark regions, himself grimly grinning over his prey, conducts us to our destined abode,— sed valete ludicra. We regale ourselves after our expeditious journey upon a comfortable cup of tea, and then take a walk to the race-ground as far as the stands; by the way observe *Centaurea calcitrapa* plentifully. At some distance we see the Devil's Dyke, and, terrified with the prospect, retreat with hasty steps to supper.—Soham cheese very fine.

"July 4th.—After a sound and uninterrupted sleep we rise at half-past 6; on going into the quadrangle enclosed by this magnificent inn I observed a post-chaise with episcopal insignia. It belonged to our worthy diocesan: upon the pannel of the chaise door I take a new *Empis*. We leave Newmarket about 7, and take the road to Ely: the morning

though clear was extremely cold and windy. At length we arrive at Soham, where the cheese well known in the neighbourhood is made: here is a good church with a fine porch and steeple. Next we proceed to Dulbridge (melius, Dull Bridge) or Dull brig as they pronounce it here. Between the turnpike and Dulbridge I observe in the left hand meadows vast quantities of bone-set (*Symphytum officinale*): the hay harvest here was but just began; except in a few places the grass is very coarse. After we had passed the bridge, the country, which from Soham is very flat, begins to ascend until we reach Stuntney (vulg. Stannay); thence we descend again into the level fens, which continue until we reach the hill upon which Ely is situated; which place we reach about a quarter before 10, with appetites as keen as the wind which had been howling around us, and prognosticating the speedy return of rain and foul weather. After breakfast, while my friend submits his head to the *frizeur*,—much good may it do him, while there is so depulverizing a blast abroad!—I walk into the minster burial-ground to con the sepulchral inscriptions. Marsham, like a good husband, writes to his wife, and then we march off for an entomological hunt."

It is necessary that the reader should here be informed, that although no insect escaped his notice, or failed to interest him, Mr. Kirby had now for certain reasons, which will appear hereafter, given his attention chiefly to the family of Wild Bees: the extent of this field for research, when noticed in its proper place, will perhaps astonish the reader who is unacquainted with entomology. The journal continues:—

"Alas! a cutting wind and absence of sun are no pleasing symptoms for an entomologist; the insect tribes then sport not in the sunny beam: however, we transfix many a poor *Musca*, and of *Tipulæ* not a few—

Wood loving Ptinus, and dung loving brood
Of swift Dermestes—Scarabs but a pair—
One Elater with shells of sanguine hue—
Full many a Dytisc, and the splendid tribe
Of Chrysomel, on crow-foot blossoms fed.
Long-snouted weevil from sad scrophulaire,
Hydrophilus that walks the crystal wave,
And Meligethe that emulates the Bee
And sips the nectared cup of Flora's tribe.
Empis that mimics with its tiny beak
The winged birds of heaven, and Vespa dire,
Instilling venom with its barbed dart.
Industrious Apis, mine of all that fly,
To speak her manners, to explore her arts,
To marshal all her warlike tribes, and tell
The wondering world their numbers and array.
Hister in armour glossy dight—high fed
With stercoraceous delicates, and swift
Or to advance or fly, fell Carabus.
All these and more we made our prey, and these
Thou, Marsham, soon shall teach to know their chiefs,
To fight, each at his post, their ranks to keep,
Bedeckt with orient hues, and pearly gems
Spangled with gold, in sunbright colours drest,
Scarlet, or glossy jet, or pleasing green,
Or the rich tincture of the violet,
Or blue cœrulean, or the azure waves—
Heav'n stolen splendours, or the full carmine,
The lips, vermilion hues when Love's sweet pains
Heave the soft snowy bosom of the fair.
So deck'd, so marshall'd, shalt thou lead them on
And show the wondering world, the myriad bands,
Call'd by the beams of light to Life and Love.

"Let me now pause a little. In plain English, our success was small; no encouragement to proceed except the capture of that fine insect, *Elater sanguineus*. We did not fail, however, to secure good entomological appetites, which prompted us to devour our spitchcocked eels, rump steak, and green peas, with as little ceremony as possible: our

wine was not so good; therefore, after 'Church and King,' 'Queen and family,' 'Wives and home circles,' my friend soon goes to sleep and sounds his sonorous trumpet. This business settled, we walk out to survey the town and the Cathedral. The former is a very poor place, consisting of several mean narrow streets, and for the most part very indifferent houses. The Cathedral is a noble pile, with pillars wonderfully massive; the whole interior is in a style of gloomy grandeur. In the centre is a fine octagonal tower with eight windows, not in the very best repair. The choir is very neat, but the east window much broken: but I have given a full description in another journal. The people here are extremely civil and respectful,—every man, woman, and child, in passing, notices you with a bow or a curtsey; I look upon this as a good omen, and as a sign that the levellers have few or no converts in this quarter. After tea, we ticket and arrange the captures of the day; at 9 we sup, contenting ourselves with a Welsh rabbit, and mixing the wine we left at dinner with water for our supper beverage. We have engaged a boat to carry us to Prickwillow to-morrow, wind and weather permitting, for 3s. the day.

> Be still, ye winds, and thou, O Sun, shine forth,
> Full, warm, enlivening—that each puny tribe,
> Of insects winged, may spread the gaudy plume,
> And on the sunbeams floating thwart our view
> Within our gauze enclosure be imprisoned.

But stop, my honest friend Pegasus; instead of versifying myself, I must copy the prose of another, from a stone in the Cathedral cemetry to the memory of a trusty servant:—

> To the Memory of SUSAN LOAT,
> A native of Chesterton, whose attentive fidelity and honesty as a servant to three families she spent her life in, justly entitled her to every mark of gratitude they could shew.
> She died July 8, 1792, aged 89 years.

And now *vale* journalising, for I begin to yawn most hideously. As we retire I whip up the candle and leave my friend to follow in the dark, and then he vows I monopolise all the night-caps, viz., two of my own, and two belonging to the house."

While we imagine our friend resting after the fatigues of the day, I must remark upon some of the points in which Mr. Kirby's picture is delineated, even in the journal of a single day's adventure, and that so faithfully, that those who knew him personally would feel almost as if they had before them that countenance which spoke so plainly of guileless simplicity and benevolence of heart. If his name is made use of in establishing an axiom relative to matters of science, his personal history may be made use of in applying that axiom to the incident of every-day life: that to which I refer is thus urged by an American writer* :—"The axiom delivered by that great man, who has so recently gone from amongst us, KIRBY the Entomologist, that 'facts, in themselves seemingly trifling, are often of the greatest importance to the physiologist and natural philosopher,' I have found to be true, and so doubtless have many others." The smallest trifles gave him pleasure, nor does he think the trouble too great to note them, either to refresh his memory, or to afford gratification to others. The disappointment arising from the state of the weather on this occasion must have been a heavy one, but it produces no murmur or ruffle of the temper; he chronicles it as the fact, but then if the steak, the peas, or the spitchcocked eels are good, he chronicles this also; the troubles being noted apparently to show the enjoyments in greater relief: it would have been impossible to have found any one less an epicure, or more averse to any thing like pampering the

* Mr. Thomas Meehan, in "The Horticulturist," edited by A. J. Downing, Vol. v. p. 224.

appetite, than he was. The day's adventures are related in poetry, as if they looked too small in prose; at all events the lines shew a mind undisturbed by the disappointment. The epitaph which I have given was the only one he copied, in a yard abounding with stones,—as though he could dwell with greater pleasure upon the grateful recollection of a domestic faithful in her generation, than upon the princely monuments and high-flown epitaphs to the learned and the great. The playful allusion to the night-caps would lead one to suppose that there was a certain degree of absence of mind in Mr. Kirby's constitution, which, indeed, was the case, though not to such an extent as to make him eccentric, or in any way generally remarkable; but that he was occasionally so, is borne witness to by another story, very similar to this, which possibly gave rise to Mr. Marsham's accusation; it was one into the humour of which he always entered himself most heartily. It once occurred that Mr. Kirby travelled with two friends, Mr. Marsham and Mr. Mac Leay, on a similar excursion, and arriving at an old-fashioned wayside inn, they were told there was only one large room for them, with three beds in it: the arrangement having been made for the night, according to the custom of the time, three night-caps were laid upon the dressing table: Mr. Kirby retired before his companions, and was soon sound asleep. Perceiving no caps ready for them, his friends enquired for what they considered the due appurtenances of the pillow; they were assured by the hostess that three night-caps were laid upon the table, but they stoutly averred they had not seen them; the landlady no less stoutly maintaining her side of the question. What actually passed in her own mind did not transpire, but she appealed to the first gentleman as being the only one who could throw light upon the subject, when, lo and behold! as soon as his head appeared, in answer to

the hasty summons, the three night-caps appeared at the same time upon it, one being dragged over the other, much to the amusement not only of those present, but also of those who long after heard the tale. But we must proceed to the journal to catch some farther glimpses.

"July 5th.—A little before 7 turn my eyes to the light, and lo! the vanity of human wishes and expectations; rain specks the windows, and little prospect appears of gratifying our inclination for an expedition into the fens; turn my head from the sad sight, to dream, perchance of sunshine and spolia opima. Before 8 we rise, and find the rain coming on in earnest. The day promised to be such another as the first, but no hospitable Sir Thomas to take us in, and enable us with pleasure to while away the storm and rain. As I was dressing, I take upon my stocking a *Ptinus*, new to me (it proved to be *Anobium abietis*, Fab. and Panzer, lxvi. 7); probably emerging from some perforation in the foot of an old chair. *Tipula lunata* was sporting upon the window of the room below; now she sports no more,—by death's fell dart (made at Birmingham) transfixed. It is worthy of observation, that the wings in dipterous insects seem to have sympathy (when newly killed, I mean), so that if one is pressed down the other falls too; if one is elevated, the other rises also. The eyes of this *Tipula* are golden-green. Upon contemplating the state of the weather, we give up our expedition to Prickwillow, and determine to sleep if possible at Chatteris. We go to the Cathedral to divine service; during the whole time one of the minor Canons kept his eye fixed upon us,—the sight of a stranger appears a novelty; we were highly gratified with the Te Deum. Return to our inn, and amuse ourselves, like good husbands, with writing to our wives. At half-past two the rain ceases, and we are not without a hope of a fine evening, and many a merry quip and crank at Chatteris

George,—the inn to which we were recommended..... Over the stocks at Ely is erected a stand upon a pillar, with the pillory on it. The country for eight miles is elevated and fertile. The steeple of Sutton Church appears to be a fine structure, and presents a remarkable appearance; it looks something like the trunk of an immense tree stripped of its bark and branches, and tapers to the top: as you approach nearer, it becomes a very fine object;—it consists of three separate pieces placed one upon the top of the other,—first a quadrangular tower occupying two-thirds of the whole height,—a dodecagon of a smaller diameter,—and a hexagon still more diminished, constitute the remaining part of the steeple. At about seven miles from Ely we descend into a vast level of drained fens, on the borders of which stands the little village of Mepal, with its hut of a church, and a domineering barn erected not far from it, as it were in derision. Nearly a furlong of the road near Mepal Bridge was overflowed, and my friend was rather under alarm lest I should commit him to the waves,—the more so, as our steed had a strong inclination for liquor. We landed safely at the second bridge, where at a turnpike gate we had to pay the enormous toll of 8d. It seems, or at least it is affirmed, that the road from Ely to Chatteris is by sufferance:—Can it really be so? The toll is not by Act of Parliament, as they acknowledged, when I expostulated with them upon the extravagant demand. The gate was locked, nor would they let us through until we had paid them.....In the marsh ditches on both sides grow in great abundance *Symphytum officinale*, also *Artemisia absinthium*, and *Arctium lappa*. *Carduus lanceolatus*, and *Serratula arvensis*, in some fens are so copious, as to appear like a crop. As we proceeded we observed on both sides of us here and there small *saliceta*; even a hawthorn hedge once appeared, and seemed to prosper. Upon my first

seeing the mills they use for draining the fens, taking them for flour-mills, I observed we must be in the neighbourhood of some great town, and it was some time before I was undeceived. As we approach Chatteris, the grass is finer, and the soil firmer. We observe a vast quantity of cattle assembled on both sides of the road, which, when we came up to them, proved to be two or three hundred cows milking: a sight which was new and singular to us both. They carry their milk into town upon asses or hobbies, in the following manner:—Upon the pummel of the saddle are three straps, which are buckled round the middle of a strong piece of wood about four feet long; at each end of this a notch is cut, big enough to receive the handle of the pail, which is fastened to it by a leather thong, and thus it rides in safety. We proceed to the George, the principal inn, a second-rate; drink a comfortable cup of tea, and then propose a walk. Chatteris is a straggling town, consisting of low cottages, tolerably neat; there are many alehouses, and two brewers." [Here follows a description of all houses of any size, with names of occupants, &c.] "In the inn-yard was a quantity of refuse wool; amongst it I find what I suppose to be the pupa of the sheep louse, *Hippobosca ovina;* we observed a merlin hawk, as well as another species of the same genus of a larger size. The fen ladies are no beauties, at least they were not in our eyes;—broad and coarse, without any delicacy of form, complexion, or tint. After a very pleasant ramble we return to supper,—cold chicken, some slices of excellent ham, and a dish of green peas; during the whole of our tour, it was our rule to have peas for supper, my friend being remarkably partial to them. After we had supped we order red-wine negus; and invite our host to take a glass with us,—from him we learn many particulars of the agriculture of the fens; his name is Sewell,—he is sensible, clever, and

intelligent." [The account of farming is given with great accuracy, but I am compelled to omit it.] "With respect to the nature of the soil, and its strata, our landlord gave us the following particulars:—Above is the marshy soil or peat; under this, at the depth of four or five feet, lies a stratum of gravel, so hard as not to be broken without a mattock. When this stratum is pierced, the water rushes up in torrents. This gravel supplies an excellent material for mending the roads. In the fens, at the depth of about two feet, they frequently find oak timber, which has been evidently *felled* by the hand of man, sometimes perfectly sound; also large branches with very visible indications of having been sawed off from some tree. The stools of trees, too, are sometimes met with; but oak is not the only timber that they discover in this situation,—they likewise meet with fir and willow. Tools have also been found. In order to discover where any trees lie under the soil, they run a spike into the ground to the proper depth,—if they meet with any resistance, they know that a tree lurks beneath, as in this soil there are no stones. With respect to the toll of which I complained, I find it is demanded without any authority from Parliament, by the proprietor, for keeping in repair part of the road: he surely has not the smallest shadow of right to stop people on the King's highway, and demand their money for doing his duty. The fens, we are told, in fine weather teem with insects, and that some in their larva state are very destructive. Having collected these particulars from our host, we wish him and each other good-night, and retire to rest.

"July 6th.—I forsake my pillow, rejoiced to find the sun shine, but clouds soon arise and intercept his beams; resolved, however, to take a walk, I snatch the pastoral staff, and other entomological implements, and set off to inspect the fens upon the Ely road. As I proceed I take some

diptera upon *Heracleum sphondylium* by the road side. Whilst I am fishing for *Dytisci*, a boy full of gaping wonderment, mounted upon Sancho's Rozinante, with another behind him, accosted me with—'Pray what, are yow fishing?' Upon answering in the negative, the youth dismounted, and with much eagerness peered into my net, which I had just taken out of the water, and saw an insect. —'Law! that's a beetle!'—'What do you think I am getting them for,—to make a fry of, eh?' At this the boy laughed immoderately: and when he saw me cork the animal up in a bottle he thought he had it. 'They are to smell on,' he cried. I took the cork out, and put the phial in which had lately been spirits of wine to his nose: 'They smell like gin,' he exclaimed; 'they *are* sweet!'

"Return to breakfast, and find my friend in deep meditation, leaning over the paling of an orchard, where were a number of lambs bleating for their dams, and guessing at their various tempers from their tones. At half-past eleven we set off with merry hearts, unprophetic of the evils that befel us, in full expectation of a good hard road all the way to Peterborough, but alas! how grievously were we disappointed! this was indeed to us 'nigro dies notanda lapillo.'

"For two miles the road is good; when we arrive at Gatesbridge we turn to the left upon a raised causeway, on one side of which was the forty-foot river; on the other, which was very steep, a deep ditch: at first the road was wide enough to drive our vehicle without any apprehension, but after a time it became so narrow as not to leave more than a foot on each side of our wheel and the brink, so that we were in as great peril as navigators of yore, who had to steer between Scylla and Charybdis: what increased the danger was, the road was without rut or horsepath, so that there was nothing to direct the horse but the driver. My friend was greatly alarmed, and my fears were not

small, being altogether unused to driving to a hair: on either side of the causeway, for the benefit of starting horses, were erected draining mills. We were so unfortunate as to meet two carriages (though in a place where there was room to pass): in one the horse and master appeared equally alarmed, so that we trembled for their safety; we ourselves once were within a nail's breadth of an overthrow, but providentially we escaped. After this our alarm rose to such a pitch that we dismounted, and gave our horse to the care of a boatman whom we met, and with joy committed ourselves once more to terra firma. On the causeway we had to pass through a toll-gate where they exacted a heavy toll: I thought it hard to pay toll for keeping a road in so dangerous a state; if they would permit ruts and a horse-path, poor travellers would be spared much alarm. The causeway is four miles in length, of which we walked three. From the bridge the road is hard and spacious for a mile, but then we plunge into a black moor. This was so wet, from the rain of the day before, that it was with difficulty we could persuade our steed to make a walk of it. By the way we observe *Ranunculus lingua* in abundance; on our right we leave a considerable farm-house, with a row of the largest willows I ever beheld: in this dreary unornamented country this was one of the most pleasing objects we had seen.

"We now make for the Green Man, a small alehouse on the other side of the bridge. After seeing our poor black-legged beast safe haltered in the stable, with a supply of food, we go into the house and enquire what we can have for ourselves. The bill of fare consisted of pork-steaks solely, with which we were well satisfied, save that we could not conjecture from what part of the animal they were taken.

"At half-past 3, after paying our small reckoning, viz.,

8d. a piece for dinner, and 4d. for the horse, we leave Ponds-bridge. As the afternoon seemed pleasant, and we were desirous of seeing if any of our pigmy friends were on the wing, we agreed to walk, the ostler following with our vehicle. We enter a drift-way, pleasant and green, which tempted us to loiter by the way-side of a dyke to fish for snails and aquatic insects. This way was adorned with many flowers, common here, but not with us. We had observed the clouds in various directions pouring out their contents upon the country beneath them, but without giving us more than a few passing drops; but now we no longer escape." [The difficulties of the road increase rather than diminish, and I doubt not the fears of the untravelled journalists have already provoked a smile to which none would have bid them a more hearty welcome than the writer; let the reader mark how the bright spot was seized upon when it did present itself.] "Wet and uncomfortable as we were, we frequently turned round to solace ourselves with the sublime spectacle which the heavens exhibited: indeed, this extensive level of fens, where the eye commands the whole hemisphere of sky that is bounded by the visible horizon, without interruption from elevation, is peculiarly favourable for observing the appearances of the atmosphere, and these we had an opportunity of beholding in their full beauty. The prismatic colours were frequently seen to the east, not in a well-defined perfect arch, but in one whose continuity was often interrupted by the passing of black clouds,—at another time they appeared in a mass of unusual width: I could not account for the variations from the common appearance of this appointed signal of Heaven's wrath suspended and reconciled, and of man's security in future from a deluge of waters. The sun, which was seen to shine in various directions on the spots of the country widely asunder, would sometimes finely illuminate a single

object, at a great distance, which we could see through the rain which was pouring upon us. The clouds themselves were beautiful and sublime, their summits sometimes tipped with silver, sometimes with gold,—again, at another time with fiery red, as if they were ignited. Storm chasing storm, with intervals in which the azure vault of heaven appeared unclouded. The shifting scenery of the heavens made up for the uniform face and dreariness of this vast expanse of fen, and for the wet which we had to encounter: I shelter from the storm, and find *Sparganium simplex:* I hasten on again and overtake my friend, who scorned any remedy against the weather. I find him, however, nearly exhausted, when an unlucky slip brings him to the ground, and soils his travelling leathers; however, we at length reach Horsey Bridge, where our vehicle awaits us. We pass Stanground Field; upon nearing Peterborough, a vast expanse of water suddenly opens upon us; a boy bawls to us, 'Sir, Sir, if you go through there your horse will be up to his belly.' For sixpence I get a shoemaker to conduct my weary friend across, while I go round by a causeway, and after losing my way I at length reach my vehicle in safety. I remount, smack my whip, and my horse sets off in a good trot, and we reach Peterborough about eight o'clock. Four hours and a half carried us seven miles and a half!!! Arrive at the Angel wet and weary, and my friend sends for a glover to see if he can get a new pair of small-clothes, but in vain; we drink tea, and then sup with appetites undiminished by fatigue, and to bed about twelve."

[The condition of his friend afforded Mr. Kirby mirth, but it must be remembered it was not indulged in until after the annoyance was in some measure removed. This notice in his journal reminds us of a story connected with

the same part of his own dress, which he himself would tell, leaving his auditors at perfect liberty to laugh at his expense. The story is this,—being invited by Sir Thomas Cullum to stay with him, Mr. Kirby forwarded his dress by stage coach, he himself travelling on foot; it so happened that the parcel, being supposed to consist of plants, was handed over to the gardener, and by him laid in, as he thought by the heels, to keep it moist. The spot chosen was an old cucumber bed, by no means a favourable place for clothes, however it might be for plants; a heavy shower of rain completed the work of destruction, and Mr. Kirby himself being wet was obliged to appear in borrowed and uncanonical costume.]

"My friend was very uneasy about his hapless galligaskins, fearing it to be impossible to restore them to their former hue; my fears were excited by the prospect of a very high bed, and I expect to be lost in a gulph of down, but was agreeably surprised; the feather bed was firm, but not knotty. I did not wake until about 8, and when I opened my eyes and sat up in bed, behold my poor fellow traveller, between hope and despair, bestowing his whole might in cleaning his leathers; at length he succeeds, and they are once more decent, at which his countenance resumes its wonted cheerfulness; he rises, and we descend into our parlour, where a new difficulty awaits us,—our boots were so wet we find more difficulty to get them on than to slip them off: at last, however, without rent or rupture, they resume their destined station upon our legs, and we walk into the town to take a survey." [Here follows a long topographical and historical account collected from various sources.] "We find it impossible to return to Norwich through Lynn with our horse: there are two roads, but one is a deep sand, the other is over a causeway, similar

to that at Chatteris; so we give that up without hesitation, and determine to return by Cambridge. After breakfast we bespeak a post-chaise to convey us to Wansford, and thence to Ufford, the limit of our expedition." [In their route many flowers were noticed, but not many insects mentioned by name, — several seats and churches are described, and among the former that of Earl Fitzwilliam.]

"In the road between Castor and Wansford, on the right hand, the beautiful but deadly *Belladonna* was abundant. This is not the first time I have observed this tempting poison abounding by the highway; I remember seeing it in Norfolk, near a village full of children: it is a most providential thing that fatal accidents do not occur from it. That the Italians should name so deleterious a plant Belladonna (beautiful lady), was no compliment to the sex; but if confined to those whose beauty is only used to seduce the unwary into the paths of destruction, it conveys a very fine moral,—and this fatal plant becomes a most instructive emblem, speaking the same striking language with Solomon. (Prov. ch. ii., ver. 16—19.) This whole country is a bed of stone; it is the same kind with that which, from a small town, is called Kettering, or Ketton Stone, and is so much used in the buildings at Cambridge: it is employed for every species of building, and they mend their roads and build their walls with it. Ray's Kettilby bee is very common in these walls, and is certainly the *Apis retusa* of Linnæus, and the *Apis acervorum* of Fabricius. At length, after passing a very long bridge of ten unequal arches, we come to Wansford Haycock. A curious history is attached to this sign: *it is said*, that a labourer was sleeping upon a haycock in the neighbourhood, and that while he slept, great rains having previously fallen, the water rose and carried man and haycock away together; the flood landed him in the very spot where the Inn now stands: when he

awoke, he asked a bystander where he was. 'In Wansford,' was the reply. 'What!' he said, 'Wansford in England!!'*

"We proceed from the Haycock (with fresh horses) along the Great Northern road to Ufford. We remark upon the manner in which the cottages are thatched, with clay upon the ridge. At the third mile we turn to the right, and pass through a swampy bottom; then over an extensive sloping common, where the road becomes extremely rugged, so that our horses can scarcely keep their feet: we quit the vehicle, and order the driver to wait for us on the other side of Walcot Park, the seat of Mr. Duncomb: I pass through the park, and gather most of the plants which indicate a calcareous soil.

"Between three and four we reach Ufford, and take up our abode in a magnificent but unfinished mansion: it belonged to the late Mr. William Symes, Mr. Marsham's brother, but is now inhabited by Mr. Swan, a barrister, who married one of the Miss Symes'. It is near the church, but the situation is very dull. The structure is extremely elegant, built entirely of Kettering stone, covered with slate. There are three stories, finished with a handsome pediment in the main building, and nearly in the same line, two wings; but these have only two stories, and are finished with a balustrade half the height of the wings. On each side is an unfinished building, which describes a segment of a circle consisting of seven arches: one of these arcades was intended for the ladies' apartments, for the arches were to have been glazed, —the other for a greenhouse. At the end of the left hand

* This story is told with much humour in "Drunken Barnaby's Journal," a now almost forgotten, but once celebrated little work, which was published in the 17th century, and is said to have been written by one William Bosworth, of Boxworth by Harrington, in Cambridgeshire.

arcade is a spacious riding school, said to be larger than the Duke of Bedford's.

"We were received with great civility, and hospitably treated. In the dining-room I observed two pieces of furniture of which it was some time before I discovered the use: they were a new kind of plate-warmer. At the bottom is a place for a heater, which warms the plates in two minutes; the urn at the top is a receptacle for knives and spoons, and the cover goes to elevate and exhibit the contents. At dinner, I observed that the vegetables, and even the melted butter, were banished to the side-board. After dinner we are inclined to ramble, and in a plantation put up an enormous *phalæna* (a country bumpkin fast asleep), which the forceps of my fellow traveller were very near taking, when Mr. Swan, in ireful mood, 'calcibus et pugnis dein fustibus,' causes it to take its flight. Supper was served at eleven. The small beer of this house would be called ale, and tolerably potent, in Suffolk. Mr. Swan has a singular mule animal, bred between a male jackal and a female terrier: to the former I could discover no very marked resemblance. Before twelve we retire to our rooms. In mine, the central tablet of the chimney-piece was carved after one of H. Bunbury's prints—'The Dance.' I was forced to ascend my bed by means of steps, and then plunge into an ocean of down, not without some apprehensions of suffocation. My bed in its dimensions did not fall far short of the great bed at Ware.

"July 8.—About eight I descend into the library. In this room there is a good collection of modern authors, and a beautiful painting of Adam and Eve after the Fall: the figure of Eve is charming, she is represented as standing with folded arms. In her countenance the painter has combined feminine softness and pensive sorrow with native grace and dignity. On the other side of the picture, more removed from sight, Adam sits, with his face leaning upon his hand, and

his eyes shut; yet in his countenance you can trace the corrosions of care and sorrow that prey upon his vitals. He seems majestic, though in ruin. There appear to me improprieties in this figure: he is painted with long hair, which is out of character; and, allowing for his being rather in shadow, his complexion is too swarthy. In the background, at an opening between two rocky elevations, stands an angel with a sword in his hand, from which circumstance I suppose the painter meant to represent our first parents just after their expulsion from 'Eden's happy grove:' in this case, the grief of Eve should have had more poignancy given to it, for as yet it could not be settled into pensive sorrow.

"After breakfast, a ride is proposed to Burleigh House. While the horses are preparing we walk to the Rectory and alms-houses. The latter were built by the late Mr. Symes, and are designed for five poor persons: they would be comfortable dwellings if kept neat, but the poor here seem uncommonly dirty; there is nothing like neatness, or a garden about any of the cottages. The favourite breed of hogs here is the flap-eared; they fat to an enormous size, but their pork is not good for roasting, and they produce the ugliest pigs my eyes ever beheld.

"Our ride is along a Roman agger, which from Walcot Park extends to Burleigh. *Ervum lens* (the Lentil) is here much cultivated: they give this vetch to their sheep, on account of its warmth, at lambing season. *Trifolium melilotus* is here so abundant amongst the corn as to do it considerable damage, and to give a very disagreeable flavour to the beer.

. . . . . "Burleigh Park is a beautiful piece of ground, well planted and watered. Before the house is a noble piece of water, which at due distance encompasses a considerable part of it; both its beginning and end are properly concealed, and the irregularity of the line of its verdant banks

is delightful. It was made in the late Earl's time, at an expense of £20,000, by Capability Brown, and is no bad specimen of his capability. The park is finely wooded; the oaks are the finest by far that I have seen in this country. Through the wood, vistas are cut in all directions, which, from the different windows of the house, are terminated by many pleasing or striking objects, like so many radii drawn from a centre to the circumference. At one window you catch Stamford Church, which is a noble structure; at another you get a single sight of a handsome stone bridge, over a distant part of the water: the town of Stamford rises before you at a third; and from a fourth you behold the distant hills of Lincolnshire, in contact with the clouds.

"This magnificent old house is built round a square; at each corner there is a small capped turret, and four over the principal portal. To the left, as you approach on the road from Walcot, is a large building of three sides, containing stables, &c., which has much the air of a college.

"And now how shall I select for description any from the immense store of paintings and curiosities of every kind, which adorn the venerable pile inhabited by this ancient and most noble family? To describe everything would be impossible; for when much is to be observed in a short space, the mind has so little time to dwell upon any particular object that no lasting impression can be made upon the memory: suffice it, then, to mention such things as occur to my recollection, and struck my mind most forcibly.

"The porter conducted us through the kitchen . . . my attention was soon diverted from the room itself to the picture of an ox as large as life, flayed, hung up by the heels and cut open, with all the fat and caul displayed,—so accurately represented, that it might have been taken for a real ox, hanging in the slaughter-house. . . . . After entering

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our names in a book, we were put under the care of a sibyl, who leads us, as she of old did Æneas, through all these unknown regions, pointing out the wonders to us . . . .

"The great and most valuable rarity in this collection, and perhaps in England, is the celebrated painting of Our Saviour consecrating the elements in the Lord's Supper, by Carlo Dolci. This inestimable performance is valued at £6000. The countenance is indeed superhuman, its expression indescribably sublime and awful, at the same time conveying the idea of more than angelic benignity,—like a cloud which at a distance appears to threaten the earth with a storm, but when it approaches dissolves itself in fertilizing showers, and is followed by sunshine and serenity. But I want words to paint the complex ideas which it impressed upon my mind, and therefore shall not attempt any further description of it. The picture next in value is 'The Death of Seneca,' which is estimated at £4000: I confess this did not strike me particularly. There was an infinite number of Holy Families (one by Raphael), Madonnas, &c., to which, with little variation, might be applied the words, Sunt bona, sunt quædam mediocria, sunt mala *quædam*.

"I was struck by a picture which did not seem to be much regarded: it was the consecration of St. Augustin to the episcopal office.

"The ceilings and walls of several of the rooms are painted. In one is the representation of the heathen deities (the celestials): some of the painting here is by far too luxuriant. Amongst the portraits there was a fine copy of the best one of Charles the First, which was burnt; the wife and family also of that virtuous prince. Amongst the curiosities were several singular pictures in mosaic, formed of small marble tesselæ. We were struck by the profusion of carved work in wood by the celebrated Gibbons. In the dining-room is a vast quantity of massive plate; amongst the rest, an im-

mense silver cistern, of 2048 oz. weight, attracted our notice; and two very large gilt chargers—one the gift of William III., the other of Queen Anne to one of the family . . . . .

"The rooms in general were not remarkable for size or proportion; but the chapel is a noble room, ornamented by Gibbons' carvings . . . . The grand entrance to the house is not by the best front: a marble hall first receives the visitor, the pillars of which are covered with a composition intended to imitate that stone; but this in most of them has scaled off in several places, and exposed the baser material, red brick, which it ought to conceal,—no bad lesson to the owners of these domains, gently hinting to them that the outside of the nobleman will be but little respected if it covers an ignoble soul; the artificial composition of rank will at times fall off, and discover the base substance of which the man is really made, and which has hitherto been concealed by his trappings. Chip off the pretended marble, and lo! the man of brick.

"After feeing our sibyl, we remount our horses . . . . pass over the bridge, and so by a riding road out of the park. On this side we had a delightful view of the house, and its exhilirating expanse of water. The high grass of the park was adorned by the beautiful blue blossoms of *Geranium pratense*, which abound in it . . . . . We ride past the church, but did not dismount. My fellow traveller surprised me with his agility and expertness in managing his horse; I had before been rather inclined to imagine myself the superior in horsemanship, but now I knock under, and confess my inferiority . . . . .

"We return to Ufford, and after dinner set off on our journey for Peterborough: we travel through Milton Park. Earl Fitzwilliam's house is large, about the date of Elizabeth; but the ground is flat, and the trees small and stunted.

Take leave of our guide, after giving him something to keep up the colour of his nose . . . . .

"We arrive at Peterborough, and after tea walk to the Cathedral. The form of this building is . . . . the ceiling is of oak-painted, but so that the whole is calculated to shed over the soul, especially at the dusky hour of evening, that sober and religious gloom which, at least to the contemplative mind, is so wonderfully pleasing . . . . You are shown the place where the beautiful and unfortunate Mary was buried, after her execution at Fotheringay. Behind the north aisle of the choir we were shown a mural monument erected to her memory: this had been removed by one of the Deans into his garden, by way of ornament. Dr. Sutton (the Bishop of Norwich), when he was Dean of Peterborough, out of respect to the memory of the dead, which in all cases he justly thought ought to be regarded as sacred, caused it to be removed back into the cathedral, and placed where it now stands. Here, also, we were shown the tomb of Catherine of Arragon; upon it was a very small brass plate, with this inscription—'Queen Catherine.' The recollection of most of those travellers who visit this spot would supply the deficiency with a very long epitaph, containing the history of her virtues and her wrongs . . . . . Return to our inn; Mr. C. Swan and three brother clergymen supped with us.

"July 9.—The next morning at seven we mount our vehicle . . . . . the beautiful morning gives us a prospect of the finest day we have yet had; the sun shines out warm, and all nature has put on her best dress,—the country looks like a garden . . . . As we are travelling, my companion entertains me with a very pleasing account of Lord Stamford of Enville. He has family prayer constantly read every morning and evening; in the winter at 7 A.M., in the summer at 6 A.M. When his chaplain is not at home he performs

the office himself, and expects all the servants of the house, whether inmates or not, to attend. Though not fond of hunting himself, he keeps a large stud of horses for his company; he attends the hunters to the field, then takes his leave, returning home to dine at an early hour with Lady Stamford, and afterwards, when the chase is over, presides at table with the gentleman's party. Many of our nobility, even in this degenerate age, set an example which it is a great pity their inferiors do not generally follow . . . . . We enter the town of Huntingdon, but as we only drive through it, I cannot say much about it. We descend a hill into a flat country, and observe the village spires shooting up towards heaven from the bosom of the trees, some illuminated by the sun, others in shadow, presenting a picture very pleasing to the imagination. I was pleased to see once more in the meadows my Burleigh favourite, *Geranium pratense.*

"At two we reach the George, in the village of Fen Stanton. The landlord, an honest-looking publican, is concerned that we did not arrive before their dinner was over, but hopes we can make shift with cold ham and chickens: to these he adds cold stuffed leg of pork, roast beef, green peas, and cucumber. A Suffolk damsel, to my no small glee, waits upon us.....We start for Cambridge at 5. During the whole of the day *Tabanus rusticus* attacked our poor steed with the utmost fury, so as to occasion the blood to flow all over her. The eyes of this insect when alive are very beautiful; their colour is pale crystalline green, but without any of those fine purple fasciæ which distinguish those of some other species of this genus.

"As we travel, Marsham gave me the following account of pickling salmon in the north of Scotland, which he had received from our common friend, Mr. Mac Leay. They first split the fish; they then boil it, and lay it upon a kind of

wire shelf, to drain off the moisture: when it is properly dried, they put it into kids, covering it with vinegar, without spice or anything else.

"The evening was very hot, and the sun-set very clear. The various appearances of the atmosphere, whether exciting awe in the imagination by spectacles of solemnity, or soothing the soul to peace and heavenly musings by its serene and placid beauties, in this open country are seen to great advantage, where nothing intercepts the view of the magnificent concave of the heavens, but the whole of the visible hemisphere is at one and the same instant displayed to the eye, and open to observation.....We reach Cambridge about 7, and proceed to the Hoop Tavern..... Mr. Newton, of Jesus, accompanied us to the Botanical Garden, which, by the abilities and industry of Mr. Don, the curator, is now in excellent order; the collection of plants is greatly augmented, and the labels are in general accurate. From all these circumstances, it appears that Mr. Don is both a skilful cultivator, and a very intelligent botanist; at the same time he is a very modest man, without any of that conceit which people of little education, who have acquired some knowledge in any department of science, too often exhibit.....In the hothouse I observed a plant figured by old Gerard, which I had never seen before, *Filago leontopodium*. Here was also the bread-fruit palm, with seven or eight fruit upon it. The water-lily in the canal was in full glory. Return to the Hoop to supper, and at 12 retire to bed.

"July 10.—We leave our beds at 7, and start for Newmarket. A little before we reached the Devil's Dyke, I dismount and hunt for insects, and find in vast abundance *Scarabæus ruricola* of Fabricius, and with them *Scarabæus variabilis* of Marsham; from this I am led to suspect they are only the two sexes of the same species. This unex-

pected success to us, who had before almost given up in despair all hope of making any new acquisitions, acted as a cordial and reviver of the spirits. Once more enter the Ram at Newmarket, and here breakfast. After settling our new colony of Scarabæi in their boxes, set off again for Barton Mills. At a short distance from Newmarket, I dismount again in hopes of getting another supply of *Scarabæus variabilis*, but I could not find a single one. I console myself and friend, however, for this disappointment, by taking several specimens of a nondescript species of this genus (sc. *rhododactylus*, Marsh.). We find the country here a dismal waste and wild, and it assumed an aspect of greater sterility than that of any we had passed through: yet even here we were not without amusement, for the little rabbits, which are numerous, scudding about in various directions, diverted us not a little.

"We reach Barton Mills, where we find the wheat crops again luxuriant. In the afternoon, leaving my fellow traveller to follow with the vehicle, I set off first, on foot, in hopes of picking up some entomological game. In the mouth of a rabbit's burrow I had the good fortune to meet with the little *Opatrum tibiale* of Fabricius; an insect, I believe, never before taken in England. On the brakes I took a specimen or two of a very curious apterous *Ichneumon*. In the meantime my friend overtakes me, and I once more resume the reins. The country here affords few or no objects to relieve the mind from the tedium which its bleakness and sterility produce in it. It may be denominated an ocean of sand, producing little besides nettles and brakes, with here and there an islet of firs. Yet the substratum appears to be chalk, and therefore it would probably produce saintfoil (*Hedysarum onobrychis*).

"At Thetford we arrive at half-past 6; we drive into the George Yard, a public-house pleasantly situated by the

river. The house is in excellent order, the people extremely civil and attentive. After we had settled the important business of tea, and given our landlady, Mrs. Broadbelt, instructions relative to supper, we sally forth to view the town and its environs. The ancient name of this place was Sitomagus, and it boasts of an origin prior to the Roman Conquest: it was destroyed by the Danes about the year 865—70, who on the east side of the town threw up the Castle Hill, said to be the highest artificial hill in England. It was defended, except towards the river, by three immense ramparts of earth, and three fosses, part of which are still remaining: you command a fine view of the town from it, but not an extensive prospect. Thetford was formerly a city, and an episcopal see, and in Edward the Third's time contained twenty churches,—thirteen on the Suffolk, and seven on the Norfolk side of the river: now only three are standing. The streets are short and narrow, and the houses in general are but indifferent.....There is one house near Mr. Coles', of very fantastic appearance: it is painted black: on one side is represented some furious nondescript animal, between a fish and a dragon; the lower story of it is an imitation of a grotto; in the little yard in front is a basin, with a Bacchus astride upon his Tun; in his hand is a bottle which will play like a fountain: the whole is the work of an old sailor.

"The remains of the Abbey are to the west of the town; the principal porch is plain and unornamented, but extremely neat; it is faced with flint with stone quoins: the arch of the gateway is also stone, and it is singular that this is not placed in the centre of the porch, but nearer one side than the other, as well as the windows of the first and second story. On the left hand side of the S.E. corner, there are the remains of a staircase; there was another at the S.W. corner, which began at the first story. Passing

through the portal to the first left hand enclosure, you observe prodigious masses of ruins, two pieces of which, from their great elevation and small diameter, appeared at a distance like two lofty columns: the building of which they formed a part was the nave of the church. At 10, return to our inn, and sup. Supper ended, my friend takes his nap, and blows his horn, and I journalize. We then retire to our beds.

"July 11. – We were surprised this morning by a novelty; the chambermaid, as at other houses had usually been the custom, did *not* forget to call us. Rise at 6; our beds were in a neat garret, which commanded a pleasant prospect. My friend starts on foot before me; and I quit this comfortable inn, after hearing the parting civilities of Mr. Broadbelt, a little before 7: no traveller need wish for better accommodation, or more civil treatment than he will meet with here.....When we approach the village of Larlingford, we behold on our right with melancholy sensations a ruinated church, too frequent a spectacle in these days, in which few men are inclined to pay any respect to sacred things, persons, or places.....The road here is enclosed on each side by a very high quick fence: this to us, who for so many days have had our eyes fatigued by prospects unbounded but by the horizon, is a change agreeable and reviving. Here our horse was attacked by an immense tabanus (I believe *Tabanus bovinus*), which we were fortunate enough to take. We reach Attleborough at 10. The steeple of the church here has this peculiarity, that it stands at the east end of the church,—a circumstance not uncommon, it seems, in churches that have been chapels to religious houses; in these, the steeple was usually in the centre. In the church-yard I copied the following curious epitaph:—

'Life is a city full of crooked streets,
Death is the market-place where all do meet;
If life were merchandise that money could buy;
The rich would only live, the poor must die.'

"At 12 we set off for Norwich; happy at the prospect of joining again my wife, and brother, and sister.

"Passing through Wymondham (vulg. Windham), a larger and better built town than Attleborough. The church has a steeple at each end: it was built against the west end of a chapel of a religious house, which occasioned this uncommon circumstance.

"From thence we proceed through many pleasant villages, abounding in fertile fields, beautiful prospects, comfortable houses, and elegant mansions, adorned with plantations and pleasure grounds. When we arrive within a few miles of Norwich, the spire of its cathedral, proudly eminent above the rest of the churches and buildings, discovers itself to us darting up towards heaven like a flame.

"We enter this anc ient city at theplace where St. Stephen's gate once stood, and direct our course through the narrow streets, badly paved, to the Castle Hill. My companion, rather alarmed at these appearances, and tired perchance with my steed's slow pace, proposes to alight, which done, we proceed together, sed haud passibus æquis, to my brother Sutton's, where we were received at 3 o'clock with open arms.

"July 12.—We breakfast and spend the morning with Dr. Smith, and examine the Linnean *Apes*. The Smiths dine with us: in the evening we go to Thorpe by water.

"July 13.—Engage in a botanical expedition to Newton St. Faith's: our party consisted of Dr. Smith, Mr. Marsham, Mr. Pitchford, Mr. Foster, Mr. Weston, Jun., Mr. Sutton, and myself. The plants we gathered were numerous,

and many rare: *Polypodium Oreopteris, P. Thelypteris, P. Filix mas, Osmunda spicant, Bryum glaucum, Satyrium viride, Serapias palustris, Orchis conopsea, Carex vesicaria, C. limosa, C. hirta, Linum radiola, Peplis portula, Comarum palustre, Menyanthes trifoliata, Gentiana pneumonanthe, Alisma ranunculoides, Tillæa muscosa*, &c., &c.

"We return in the evening, after having been consulted by the villagers as learned doctors.

"The remainder of the tour to Barham was through a country I had so often passed, that I did not keep any account of it.

'Laus Deo Triuni
in secula seculorum. Amen.' "

CHAPTER VII.

Theology of the 18th Century.—Mr. Rodwell succeeds Mr. Milner at Hull.—Difficulties he has to contend with.—Consults Mr. Kirby.—Earnestness and candour of both conspicuous.—Mr. Rodwell's death.

In a former chapter we left Mr. Rodwell in charge of the curacy of Witham; this he subsequently changed for the Lectureship of the church of the Holy Trinity at Hull.

We have already had sufficient insight into his character to perceive that he was possessed of a mind earnestly desirous of learning the truth, and at the same time of a friend in Mr. Kirby ready and willing to assist him in his inquiry. In truth he needed such a friend, for the time when Mr. Rodwell entered into holy orders was a juncture of peculiar trial and difficulty. On the one hand, there were few external circumstances by which a young divine found himself surrounded which were likely to kindle any great amount of zeal or fervour, much less to lead him to make the cross of Christ and His atoning merit the prominent feature of his ministerial instructions. On the other hand, there was equal danger, lest, from the dread of forgetting the main point, every other point should be neglected.

The theology of the 18th century presents a sad and melancholy void in the page of ecclesiastical history: there were doubtless many amiable men, and many of personal piety, who looked for the mercy of God through Christ as their only hope of entering into His everlasting kingdom. But as far as teaching others went, the sermons of that age were for the most part cold and formal,—rather essays on morality, than discourses upon the intimate union betwixt

Christ and his Church, and the consequent necessity for holiness in the disciples if they would continue living members of the body. Many learned discourses were made as to what rendered an action moral or otherwise, but few showed the true ground upon which morality should be enforced. Volumes of sermons published in those days may be taken up, and sermon after sermon may be searched, without finding reference to the Atonement, and some, without even the name of Our Saviour being found in them, unless perhaps as a formal conclusion.

Mr. Kirby having known the evil of a double mind, which makes a man unstable in all his ways, could keenly feel for another. By early training and laborious study, he had by God's blessing learned to view subjects apart from the covering cast over them by modern prejudices. Truth had been in the beginning, and was still to be found of those who sought it aright: he would go back to early ages for his instruction,—not that he expected to find truth even then without any alloy, neither did he think it impossible for that which is modern in practice, to equal or surpass that which has the venerable stamp of antiquity upon it; but he thought that he should there find religious questions discussed apart from those circumstances which have more immediately called them forth, and which are so likely unduly to bias the mind on one side or the other. As he would prefer a dead language for scientific purposes, because the construction to be put upon it was not subject to change according to the caprice of the age,— so, in religious matters, he would prefer seeking the exposition of Scripture, as regards apostolical practices, in the writings of the Fathers, or in our older divines, rather than in modern books, whose statements are apt to be coloured by their being adapted to meet a particular controversy. Above all, he delighted to refer to, and to make himself conversant with, that Book—to which all human learning, and every human work, must be brought as

a test,—the Word of God. He turned to the Fathers, and there he found ministerial offices, and functions, and duties referred to, and sacraments regarded as sacred institutions ordained by Christ himself; but he found that they were only means to an end, and that the only hope of salvation which they dwelt upon was the atonement of the incarnate Son of God. These statements were brought to the test of the New Testament; and, by the blessing of God upon his study and meditation, he was enabled to give a clear answer to any that asked a reason of the hope that was in him: that answer was, that he from his heart believed that Christ was the only rock of salvation; that there could be no merit for man to depend upon, save His merit,—no intercession but His intercession,—no means of man's approaching in an acceptable manner to the throne of grace but through the assistance of the Holy Spirit within him.

It would have been enough, perhaps, to have said that Mr. Kirby was a herald of the Gospel message in all its purity and simplicity,—in fact, an Evangelical minister. But so much license has been taken with words and phrases as to their meaning, more especially in theology,—some being limited, while others are perverted, that we must be extremely cautious how we trust to any well-known term to convey our ideas. If we regard the word evangelical in its strict and original meaning, to none could the epithet be more properly applied; if, however, it be taken in the limited sense in which some would take it, it would not be rightly applied. Mr. Kirby would have been averse to the adoption of any title which would exclude others who had been called to the same office, and were equally anxious to perform its duties, though they might adopt different modes of practice. But besides this, which is still more important to be borne in mind, he felt firmly persuaded that not a few who assumed this title were mistaken in their views, and would ultimately fail of the object which they earnestly sought to obtain.

The way in which these mistakes were generally noticed was by invective and ridicule, tending rather to give them firmer and deeper hold, and forming the best apology for some few who were led to adopt practices so extravagant, that at last they had no other course left them than to betake themselves to another form of worship. But no language bearing the stamp of unchristian feeling ever proceeded from Mr. Kirby. He himself had lamented the want of zeal and energy which was too apparent in many directions; he disapproved of the system of theology, or rather the want of system, which was generally prevalent; and he mourned the absence of that fundamental truth, which could alone render the system worthy of its founder. But he did not consider it necessary, in avoiding the errors of one side, to fall into those of another.* Mr. Kirby's views, however, are stated in letters of his own, with so much charity, and at the same time with such firm adherence to what he conceived to be the truth, that they are well worth the attentive consideration of any one ever likely to be engaged in religious discussion.

The circumstances which elicited these remarks will partially appear in the extracts from letters to Mr. Rodwell shortly after his removal to Hull.* His predecessor there was the Reverend Joseph Milner,* who in some points of

* The Rev. Joseph Milner was born at Leeds in 1744, and, soon after he had attained deacon's orders, was chosen head master of the Grammar School, and afternoon lecturer of the High Church at Hull. In 1797, he was elected vicar of Hull, by the mayor and corporation, and died a few weeks afterwards, at the age of 54. He lived to see his peculiar religious sentiments become so popular in the town, that many of the pulpits of the churches were filled by his friends and pupils. The work by which he is best known is the "History of the Church of Christ."

doctrine differed materially from Mr. Rodwell. So much was the congregation assembling at the church of the Holy Trinity fascinated with the preaching of their late pastor, that it would have been very difficult for any one to have given general satisfaction: the result was, that Mr. Rodwell found his own church almost deserted, while he saw that of another clergyman filled to overflowing. The personal piety of this gentleman, his zeal and energy, added to the esteem which his benevolence had procured for him, not unnaturally led Mr. Rodwell to waver, and question whether sufficient reason was not afforded for his adopting, at least in some degree, the same method of obtaining an audience as that adopted by his neighbours. The friendly terms upon which he lived with them, backed by their strong persuasions, had well nigh induced him, contrary to his own preconceived opinions, to take this course as a matter of expediency; but he would not do it without first communicating his thoughts to his former adviser. By him, Mr. Rodwell's mind is laid open to himself as plainly as if a glass were placed before him, as may be clearly seen from the following letters:—

"Barham, Whitsunday, 1798.*

"Dear Rodwell,—It gives me much pleasure to learn that you are so comfortably situated with regard to temporals: with respect to spiritual matters, your situation as you describe it is certainly unpleasant, and requires great prudence and discretion to do away the ill impressions received of you by one party, without giving umbrage to the other; and this can only be done by convincing them of the sin of schism, and the blessedness of unity, in the spirit of meekness and wisdom; and by preaching, not the doctrines of a sect or party, but the

* Mr. Kirby was not in the habit of dating his letters thus, although the subject of the letter led him to do so on the present occasion.

Gospel of Christ; making Him the chief corner stone, and raising upon the firm foundation of *faith* the precious super-structure of holiness —not by our own strength, but by that of the Holy Spirit; so shall you be a workman that need not be ashamed, rightly dividing the word of truth. Let not worldly respects, and opinions, and applause, have any weight with you; consider first how you may please God, and not the world; how you may preach the truth as it is in Jesus, and not how you may prophesy smooth things (see Isaiah, xxx. 10; Ezek. xxxii.) I have read Mr. Milner's book:* there is gold, and silver, and precious stones, mixed with wood, hay, and stubble, in it. I think, as far as I can judge, without having seen Mr. Ludlam's,† that Mr. Milner has the advantage of him in the argument. Illumination as well as sanctification constitutes a part of the office of the Spirit. Yet he is certainly enthusiastic in making regeneration and conversion independent of ordinances and sacraments. But I have had no time to say what might be said upon this book; I will therefore, not without considerable awe, give you what appears to me to be the doctrine of Scripture,—of the primitive Christians,—and of our own Church, upon this point—one of the most important that can be imagined; for we are assured that if any man have not the spirit of Christ, he is none of His; and that as many as are led by the spirit of God, they are the sons of God. I beseech you, therefore, to prove what I say, and to adopt it only so far as it is agreeable to the Word of God, and at the same time not to reject it because it may appear an unfashionable doctrine.

"A better day cannot be chosen to treat of the agency of the divine spirit than that day on which we commemorate his descent upon the church, to remain with it, and to sanctify it for ever.

"There are three measures of grace which this divine spirit has bestowed upon the Church, and which Bishop Horne well denominates the apostolical, the ecclesiastical, and that designed for personal sanctification of individuals; which last constitutes the great end for

* "Essays on the Influence of the Holy Spirit."

† The Rev. Thomas Ludlam, rector of Foston in Leicestershire, was one of the most formidable opponents of the Calvinistic writers of this period. He published "Essays, Scriptural, Moral, and Logical;" and was almost constantly engaged in controversy, as the champion of the Church of England, against those calling themselves Gospel Ministers. He died 13th Nov., 1811, aged 84 years.

which the Holy Spirit came into the Church, and for which the other two measures were bestowed.

"With respect to the apostolical, by which I understand those extraordinary powers by which they were enabled to speak with tongues, to work miracles, to write the Scriptures, and found the Church of Christ,—with respect to these, there is no debate amongst Christians; I therefore pass this measure over without farther notice. The next measure of grace is the ecclesiastical, bestowed for the purpose of governing the Church, instructing its members, and administering its sacraments and ordinances. Here those enthusiasts are guilty of a great mistake who uphold unauthorised teachers, and self-commissioned Evangelists, who have received no authority to teach from those in whom Christ has lodged the power to send forth labourers into His harvest. Their pretence is an *inward* call; but since the foundation of the Church no person was ever admitted without an outward as well as an inward call. 'Then Jesus said to them again, Peace be unto you; as my Father hath sent me, even so send I you; and when he had said this he breathed on them, and saith unto them, Receive ye the Holy Ghost; whosesoever sins ye remit they are remitted unto them, and whosesoever sins ye retain they are retained' (John, xx. 21, 22, 23). We must observe this was the conveyance to them of the ecclesiastical measure of grace, quite distinct from the apostolical, which was not given till the day of Pentecost (compare St. Matthew's account of giving this commission, xxviii. 18, ad finem). 'And Jesus came and spake unto them, saying, All power is given me in heaven and earth: Go ye, therefore, and teach all nations, baptizing them in the name of the Father, and of the Son, and of the Holy Ghost; teaching them to observe all things whatsoever I have commanded you, and lo, I am with you alway, even unto the end of the world.—Amen.' These words were spoken unto the eleven; and from them it is evident that the apostolic office and its ordinary power, the beginning of which is described in these passages, was to continue until the end of the world,—the strongest of all arguments in favour of episcopacy. The next ordination was that of Matthias: here was an outward call, as well as an inward, for the disciples appointed two (Acts, i. 23). Again, St. Paul had an outward call. By the ministry of Ananias he was baptized; and when separated to the Apostleship, it was by the imposition of hands (Acts, xiii. 2, et seq.). 'As they ministered to the Lord, and fasted, the Holy Ghost said, Separate me Barnabas and Saul for the work whereunto I have called them; and when

they had fasted and prayed, and laid their hands on them, they sent them away:'—the Holy Spirit Himself *viva voce* requiring ordination by man, to accompany His inward call. St. Paul's direction with respect to deacons is, 'Let these also first be proved,' which must be by man (1 Tim. iii. 10). He mentions the gift that was in Timothy by laying on of hands (2 Tim. i. 6). To the Hebrews he saith, 'No man taketh this honour unto himself but he that is called of God, as was Aaron' (Heb. v. 4). Aaron had an outward unction as well as an inward. This ecclesiastical grace is not annulled by the misconduct of ministers; the sacraments and ordinances administered by wicked ministers are effectual to those who by faith receive them: neither Paul that planteth, nor Apollos that watereth, is anything, but God that giveth the increase. Both the apostolical and ecclesiastical inspiration may be possessed by wicked persons. Saul in sin prophesied (1 Sam. xix. 18 to 24); Caiaphas prophesied in virtue of his office; Judas was an Apostle: our Lord says that many workers of iniquity will have power to prophesy (Matt. vii. 22). The same is the doctrine of our Church,—read the 26th Article; and it is much to be lamented that in these days, when the world seems dead to spiritual things, that the proper steps are not taken to remove either wicked or heretical ministers. If people would set about this, instead of running out of the church into the desert, or into the secret chambers, it would be the proper method of acting.

"But I proceed to the third measure of grace, for the sanctification of individuals.

"With respect to this, amongst those that allow it, there seem to be two opinions: some hold that it is merely an influence of the Holy Spirit upon the will, inclining it to the love and practice of virtue, and that those expressions respecting a new birth *et similia* are metaphorical, which appears to be an opinion of too many divines of the present day. The other opinion is, that literally a new birth and a new creation take place in the heart of the Christian,—a principle of spiritual life from the Holy Ghost, whereby we become partakers of the divine nature, and temples of God. That this is not only an influence upon, and an aid to our old natural powers, but absolutely a new principle, which by the Holy Ghost is sown in our hearts, where, if duly encouraged, it springeth up and taketh root downwards, and beareth fruit upwards, receiving its proper nutriment from God; and this is the doctrine of the Scriptures, and our Church (Ezek. xxxvi. 25, et seq.) 'Then will I sprinkle clean water upon you, &c. &c.; a new heart also will I give you, and a new

spirit will I put within you.' How great a change must that be which is represented by taking one heart out, and putting in another,—not a mere influence upon an old nature, but absolutely a new one given. But I pass to the New Testament.

"'But as many as received Him, to them gave he power to become the sons of God..... which were born not of water, nor of blood, nor of the will of man, but of God.' Are we at liberty to look on words so express as these as mere metaphors? 'Jesus answered and said, Verily, verily I say unto thee, except a man be born of water and of the spirit, he cannot enter into the kingdom of heaven; that which is born of the flesh is flesh, and that which is born of the spirit is spirit.' Would Christ affix his ἀμὴν ἀμὴν to a mere metaphor! From the latter verse it appears, that the birth from the spirit is as real as that from the flesh: see also passages 1 Peter, i. ii. iii.; 1 John, iii. ix. and v. 4, 18. These expressions, and an infinite number more in the Old and New Testament, show that the new birth of the Christian is something more than an influence; it is called also a resurrection from the death of sin, an awakening from sleep. For the doctrine of the Church of England read first part of the Homily for Whitsunday, and also the Office for Baptism.....

"Believe me, &c., &c."

The truth of the reasoning in this letter Mr. Rodwell fully and frankly admitted, but he still clung to that fatal mistake so common to young men, of measuring the quality of his instruction by the amount of hearers that it brought him; forgetting that it often happens that hearers seek the pleasure of signifying their approval, rather than the instruction which they stand most in need of. His reply brought back the following exhortation:—

"Barham, Sept. 25th, 1798.

"Dear Rodwell,—Mr..... delivered your letter himself as you desired; if I might venture to form an opinion from the very short conference I had with him, I should say that he was a very well-meaning, serious man, but rather tinctured with enthusiasm; but his stay was so short that I am by no means confident in my opinion. Speaking in that letter of what I had said from Bishop Horne upon the different kinds of grace, especially the ecclesiastical, you say,

'But it would be very unpalatable doctrine at Hull; indeed, not listened to.'

"To people who are predetermined to walk in *crooked* paths, to point out a straight one would certainly be useless; it would be casting pearls before swine; but surely at Hull, as well as elsewhere, there are many good people, who only want to have the truth propounded to them to embrace it,—and faith cometh by hearing. Our duty is to declare to our people the whole counsel of God, not suiting our discourses to their wishes, but to their spiritual wants; and, therefore, where we find the strongholds of error, we are to direct our attack: for we are for the pulling down of strongholds, and of everything that exalts itself against the truth of the gospel; not as men-pleasers, but as the servants of God, and ministers of Christ, remembering always that though it be Paul that planteth, or Apollos that watereth, yet it is God that giveth the increase.

"I remain,

"Yours, &c."

The word enthusiasm, as it occurs in this and other letters, is used in its strict and proper sense, and not in the popular one of the present day, which is limited to warmth of imagination, or an indulgence of fanciful ideas. An Essay written for the use of Mr. Rodwell plainly exhibits Mr. Kirby's objection to the imperfect method of teaching adopted by some of the most zealous divines of that time. An attentive perusal of this Essay could not fail, at the same time, to remove any expression which could possibly arise as to his wish to make the ordinances of the church supply the place of fervour or devotion, in the Christian heart. Mr. Kirby having shown superstition to have been coeval with idolatry, and having defined it to be the fear and worship of other powers beside the great Creator of heaven and earth, and having farther shown how this exists in the religion of the Church of Rome, thus proceeds:—

"But another kind of superstition remains; it is to be found in protestant countries—the resting in the *means* without looking to the

end of those means. By means, I intend the worship of God in public and in private,—hearing His word,—receiving the sacraments, absolution, &c. The end for which these means are appointed was to produce holiness of life, and they are all-powerful when used as means to promote that end. The superstitious protestant is he who thinks that God is pleased with the mere *use* of the means, without any reference to the end.

"Thus, then, superstition may be defined to be—

"1. A fear of those who by nature are not gods.

"2. A hope of acceptance from the observance of means, resting in them as if they were ends.

"3. An unfounded idea that God is pleased with ordinances which he has *not commanded,* or displeased with the doing things which he has not forbidden.

"Enthusiasm,—τὸ ἔνθεον: fanaticus furor—impetus numine afflatorum. Its origin is coeval with superstition.

"Superstition created false gods; enthusiasm inspired their priests, and gave forth their oracles.

"In all false religions (I mean of pagan origin), the priests pretended to supernatural communications. This fanaticism ceased not when the world became Christian, but still upholds its head. How many instances are there of a similar spirit, and lying miracles to uphold the idolatry of the Romish Church.

"To come home, let us see the marks of the same spirit: it is not like the popish superstition, resting in means, but it is independent of all means; believes itself the favourite of heaven already, and therefore rejects all means as unnecessary: springs from pride and self-confidence, and therefore overleaps too often all bounds of society and religion."

After showing how this is exhibited in various sects, he proceeds—

"All these, with many more, hold themselves out as ἔνθεοι; the inner light which they imagine to reside in them, is the sole guide that they follow. An enthusiast is one who thinks that he has an internal light sufficient to guide him in the way to heaven, independent of the use of external means. The true christian is he, who trusts not in himself, or in his own natural powers, for wisdom, holiness, or spiritual might; but with humility, and with the simplicity of a child, goes to God for it,—takes his religion from the Bible, pre-

viously begging of God, in the words of the divine Psalmist,—'Open thou mine eyes, that I may behold the wondrous things of thy law.' What he finds there revealed he believes, what he finds there commanded he endeavours to practise. He uses the means of grace there appointed with a firm faith in the divine promise, that they will convey the graces promised to the use of them; and esteems himself to be under the guidance of the Holy Spirit in proportion as he brings forth the fruit of the Spirit. He neither, with the superstitious formalist, rests in means, without looking to the end, nor does he hope to attain the end, like the enthusiast, without the use of the means."

In carrying on their correspondence, Mr. Rodwell was too ingenuous, and too much in earnest in his desire to be rightly guided and influenced, to hold back any part of his mind: he is made to feel that he has yet another lesson to learn, before he can say that his practice proves that he is influenced merely by the fear of God, without any reference to the opinion of man. Mr. Kirby might have triumphed in the admission of the correctness of his argument, and have rested satisfied with having so far gained a convert to his views, or kept one, at least, from departing from them: but no such motive as this could in any way influence him: while the smallest shadow of self-delusion remained, he would use every effort to remove it, especially as he found his letters received with so much affection and good-will:—in his next letter he writes —

"November 19th, 1798.

"My dear Rodwell,—There is a passage in your letter upon which you will, I know, excuse the liberty I take in making observations. These are your words: 'I believe the majority of Mr. Milner's hearers have returned to their seats at the High Church: I humbly trust, however, that to acquire popularity is far from the object of my labours. But to offend people whose conduct evidently evinces that religion is the main-spring of their lives, I cannot think upon without horror.'

"I do not perfectly comprehend your meaning in these words; but I presume you would have me understand by them, a disinclination

in you to advert in your discourses to their peculiar tenets, or in any way to offend them by any counter declaration. You are certainly placed in very delicate circumstances, and have the utmost need to join, in every part of your conduct, the wisdom of the serpent with the harmlessness of the dove: but the grand object upon your mind should be, to preach the truth of the gospel; not going out of your way to attack particular errors, but to take every proper opportunity of pointing out the genuine doctrines of our religion. No good whatever can arise from your combating those errors to which they have no tendency. But you are to watch for their souls as one that must give an account, and, therefore, are bound by every strongest tie to point out to them with the meekness of wisdom, those errors into which they are most apt to run. You promised, when you were made priest, to be ready with all faithful diligence to banish and drive away all error and strange doctrine contrary to God's word.

"Never expect to do your duty without giving offence, and recollect that part of the Christian's motto is *διὰ δυσφημίας*, as well as *διὰ εὐφημίας*. You are right, indeed, to become with St. Paul, in all indifferent matters, all things to all men, not to gain their applause, but their souls; neither ought you to let your good be evil spoken of. The best receipt that I can give you is that of the Apostle, *ἀληθεύοντες εν ἀγάπη*, speaking the truth in love. (Ephes. iv. 15: read from verse 11 to 17 of this chapter.)

"If our manner and conduct show that love for their souls is the motive of our actions, none will be offended at us whose good will is worth preserving. The people are to seek the law at the priest's mouth, and if his lips withhold it from them, where shall they go for it? Religion may be the mainspring of people's action, but if it is a false religion, it is a rotten foundation, and will produce no real good; we are for the pulling down of strongholds, for the casting down imaginations and every high thing that exalteth itself against the knowledge of God.

"I have seen Mr. Daubeny's appendix to his 'Guide to the Church,' in letters to Sir Richard Hill,* a book which, together with the Guide itself, I would recommend to you in the strongest terms;

* Sir Richard Hill, Bart., of Hawkstone, in Shropshire, was born in the year 1732. He was a benevolent, pious, and worthy man, and belonged to, and was a leader of that portion of the establishment which is called the Low Church party. He was the author of several controversial pamphlets, and died in 1808, aged 76.

a more useful book for the present times has not appeared for many years. That the enthusiasts abuse the author is to be expected; no doubt they will strive to cry down a book that exposes the genuine deformity of schism: but do not suffer any thing of the kind to prevent you from reading it with the attention a subject of such infinite importance deserves. Now, indeed, is the time for every true son of the church to stand up for her, and to strengthen the bulwarks, that she may not be swept away by the overflowing flood of schism and enthusiasm: since the evil spirit has been foiled in his attempts to subvert the Church, and the State, by the instrumentality of the open enemies of religion, he has shifted his ground, and is endeavouring to effect the same end under the mask of zeal for religion, and the genuine Gospel of Christ; infusing into men's minds, by means of his agents, a contempt for the visible Church, its ministry and ordinances, and persuading them to believe that every man is at liberty to do what is right in his own eyes: as if our God, instead of being a God of order, was a God of confusion, and a builder of Babel. Unless some speedy steps be taken to check the growing evil, the consequences may be dreadful and irretrievable. There never was a time in which it was more incumbent upon the clergy to give particular attention to their doctrine, that they may deliver the whole truth to their people,—give them just notions of the nature of the Christian Church as a society,—to point out strongly and earnestly the great sin of schism, and the necessity of adding to Christian faith Christian virtue. The doctrine of regeneration by baptism, of grace received in confirmation, and at the sacrament of the Lord's Supper, these are topics become more necessary than ever to be inculcated upon our people, who in this respect are often miserably ignorant. In doing this we shall fulfil our engagement to the Church, and have a clear conscience.

"I am, &c., &c."

Mr. Kirby was too sincere, and felt too deeply the weighty importance of the questions at issue, to dream of any personal gratification from having obtained an ascendancy over the mind of another, and scrupulously avoided any thing which might by chance lead his friend to adopt views which did not proceed from firm conviction. When Mr. Rodwell writes,—"It is with no small satisfaction that I find my

opinions growing daily more similar to yours," Mr. Kirby answers—

"I do not desire you to adopt my opinions farther than they agree with Scripture and antiquity; at the same time I earnestly entreat you not to give yourself up to others, who I see plainly are seeking to bring you over to their party: you say you think they speak too much of sensible regeneration, experience, &c., &c., but it is certain that nobody can find fault with their sentiments on morality,—they are most *rigid*. I do not know that their sentiments on morality are faultless because they are most rigid—Μείζων δὲ τούτων ἡ ἀγάπη."

The early death of Mr. Rodwell* brought this correspondence and friendship to a close; not, however, without the following grateful acknowledgment being made for the service rendered by his friend. He writes—

"You see how unreasonable I am. I have your papers and your MSS., and still I am not satisfied. The truth is, I have yours, but I want you. I much regret that I have lately been deprived of that which is the only adequate substitute I could have, instead of the blessing of your personal friendship,—I mean your correspondence. Is it that you think it unnecessary, or not valued? As to its being necessary, God knows I have need enough of every help, of the admonitions, of all the prayers my friends can put up for me to the throne of grace: let me not be denied yours: your letters are always profitable to me, not those the least so, that have been the most wounding: surely it is far from being an unimportant branch of christian ἀγάπη to animate each other along the thorny and steep ascent, especially when we consider how drowsy we naturally are."

A kind apology was returned to this letter by Mr. Kirby, accounting for his silence, by urging great pressure upon his time as his excuse: the nature of his occupa-

* Josiah Rodwell, born Dec. 9, 1773, married Ann Baskett, daughter of the Rev. K. Baskett, of Pocklington, Yorkshire, He was Vicar of North Ferraby, and Lecturer of Holy Trinity, Kingston-upon-Hull, where he died June 27th, 1801.

tion will appear in a future page. Let the reader, in contemplating the correspondence which by this letter was terminated, remember that "humanum est errare;" nor let him hastily imagine that the character of Mr. Kirby is heightened at the expense of that of his friend.

If on the one hand we regard with admiration the firmness of the one combined with aptness to teach, we may surely with equal pleasure regard the candour of the other, united as it was with a spirit of meekness and humility. Their mutual friends might, with the alteration of a single word, say,—

> "Happy am I that have a man so bold,
> That dares do justice on my proper son:
> And not less happy, having such a son,
> That would deliver up his greatness so
> Into the hands of justice."
>
> King Henry IV., 2nd Part.

CHAPTER VIII.

A new genus of Insects proposed by Mr. Kirby.—Insects which injure wheat.—Their parasites.—Other diseases of wheat distinguished.—Insects which prey upon timber.

It has already been observed that Mr. Kirby had made selection of one particular genus of insects as the especial subject of his study. A paper read at the meeting of the Linnean Society, on the 5th of December, 1797, throws great light upon the cause of his making this selection, and leads us at the same time to the discovery of the reason of his so scrupulously giving over all the other genera to his friend Mr. Marsham,* for description and arrangement, while he modestly lays claim to one alone,—viz. the genus *Apis*.

The paper to which we refer is headed thus :—

"*Ammophila*, a new genus of Insects in the Class† Hymenoptera, including the *Sphex sabulosa* of Linnæus."

The object of this paper was to give a description of some insects which Mr. Kirby had met with, one of which had never before been described; and others, after a very minute examination, appeared to differ so much from the type of the genera in which they had been placed, that he felt convinced they ought to form a new genus. Not that Mr. Kirby was at all an advocate for extending the list of genera, where no difficulty was felt in making use of those

* See page 84.

† The word *class* is used here and elsewhere for *order*. I have not made any alteration,—the word *order* being also used, it is evident that they were treated as convertible terms, the state of the science at that time admitting of this.

already adopted; but when he found in a genus, distinctive characteristics, which did not run through all the species, and serve as a common link to unite them, he conceived that it would be giving simplicity, to establish a new genus, with characteristics which should belong to all the species within it. In his examination of the Hymenoptera, Mr. Kirby made the most careful microscopic observations upon the tongue, and the valves which enclose and defend it: he discovered that this instrument is not confined to one or two genera, as seems to have been the opinion of Linnæus, and most other entomologists, but belonged, as his repeated dissections of that part proved, to a very large majority of the class; although in some, on account of the diminutive size, it may not be visible, unless the eye of the examiner was assisted by a very strong magnifier. This part he regarded as of great importance, and predicted that it would furnish a very appropriate character to distinguish many of the genera in the order. In searching for an essential character, by which to distinguish his favourite genus *Apis* more determinately than any used by those that had previously written upon the subject, he was led to the examination of what were termed by Fabricius *instrumenta cibaria;* and was so struck with the results of his examination, that, upon mature deliberation, he did not hesitate with much confidence to assert, that if attention were paid to this part, and his views adopted, many of the genera which were the most confused would be capable of being readily distinguished and accurately described.

The observations which he made he found peculiarly applicable to the *Sphex sabulosa* of Linnæus: he observed that the tongue of this insect differed materially from the tongue of other insects in the genus to which it then belonged: he therefore proposed to remove it to a new genus, placing it between *Vespa* and *Apis*, under the name of *Ammophila vulgaris*. The other three insects which he

described in technical language, were *Ammophila affinis*, *A. hirsuta* (*Sphex affinis*, *Lin.*) and *A. argentea*. The name of this genus was chosen from the circumstance of all the species with which Mr. Kirby was acquainted frequenting sandy banks, particularly such as are exposed to the sun. Of *A. affinis* he says: "I took two specimens of this insect upon the sunny bank of a sand-pit in Martlesham Heath, near Woodbridge, in the beginning of last September, which was the only time I ever met with it. I do not find this species described in any author that I have an opportunity of consulting. Of *A. hirsuta* he says: "The larger specimen of this insect, I purchased, as English, at a shop in Piccadilly; but the small one (which I believe to be the male) I took upon the sunny bank of a sandy ditch near Martlesham Heath, at the same time with *A. affinis*." He then takes the opportunity of paying his friend Marsham a compliment, by remarking: "I think that I have likewise seen it in the rich cabinet of our Secretary, my tutor in entomology, to whose liberality mine is indebted for some of its most valuable contents."

A note attached to the description of one of the above insects is worthy of observation, giving as it does the origin of a term subsequently made use of. It is this: "That part of the thorax which is behind the wings I believe I shall name upon a future occasion *Metathorax*, as it is separated, in Hymenopterous insects, both from the thorax and the scutellum, by a suture, and in descriptions often requires distinct notice."

The reason which, as has been observed, Mr. Kirby gives in his paper for preferring the Hymenopterous to all other orders, is well worthy of careful consideration; showing, as it does, how happily the study of religion and morality was blended with the pursuits of recreation and amusement. The words are these:—

"In no department of the animal kingdom is the Divine

wisdom more eminently conspicuous than in the constitution and œconomy of the insect tribes; and amongst them, none perhaps are more worthy of our attention, on both these accounts, than the individuals which compose the class Hymenoptera. Though they do not, like many of the Coleoptera and Lepidoptera, immediately attract our notice by the brilliancy or gaiety of their colouring (though some are singularly beautiful even in this respect), yet when we examine them closely, and observe the consummate skill manifested in their construction;—when we attend to their history, replete, be they gregarious or solitary, with entertaining anecdotes, and furnishing instances of the most astonishing sagacity, and most prudent precaution;—we feel inclined to prefer the study of this order of insects to that of any other, not only as most prolific of materials to set forth the praises of Him who hath created them, which is the first duty of the naturalist, but also as gratifying, in a high degree, our natural taste for the inspection of things that are remarkable either for their beauty, their structure, or their uses."

At the close of the last century the most intense anxiety prevailed in this country, in consequence of what was supposed to be a new disease in the corn, threatening not only present scarcity, but exciting the most lively apprehensions lest it should prove something more than a casual blight, and a general famine prevail, before its cause could be detected, or a remedy suggested.

Mr. Marsham was amongst the foremost to call science to the aid of the farmer, as well as to the comfort of the panic-stricken; and for the purpose of acquiring information such as to warrant his prescribing an antidote, he carried on a correspondence with Dr. Goodenough,* Mr. Markwick, and Mr. Kirby.

* The Right Rev. Samuel Goodenough, D.C.L., Bishop of Carlisle, Vice-President of the Royal and Linnean Societies, and Fellow of the

The description of the appearance of the disease is thus given by Mr. Marsham :—"Upon opening diseased grains of corn, an orange-coloured powder appeared, and very frequently minute larvæ, varying from yellowish-white to yellow; they were too minute for the naked eye to examine, but under the glass they resembled the aphidivorous larvæ of one particular family of *Musca*." Mr. Marsham farther says, he found in ears he examined *Thrips physapus*, and also some very small Ichneumons, one of which settled upon a larva, wounded the maggot with its tube repeatedly, and he had no doubt deposited its egg. This observation was made in 1795. Having but few opportunities, from his residence in London, to watch the corn-fields, he wrote in the year 1797 to Mr. Markwick and Mr. Kirby, requesting them again to make their observations in their respective localities, as the wheat advanced in the ear, and to send him the result.

He subsequently, upon receiving their reports, wrote the substance of them to his friend Dr. Goodenough, in a letter afterwards published in the Linnean Transactions. In this we find that the observations were highly satisfactory, more especially as one confirmed the accuracy of the other. Mr. Markwick had not been quite so fortunate as Mr. Kirby in his discovery, but any amount of fame which he might have lost from this is counterbalanced by the generous manner in which he notices Mr. Kirby's letter, which had been forwarded to him by Mr. Marsham: he writes, "I want words to express the pleasure I received from your last letter, as well as from your obliging communication of that of your very ingenious and learned friend,

Society of Antiquaries. His proficiency in the various departments of Natural Science may best be shown by referring to his numerous papers in the Transactions of the Linnean Society, particularly those upon the genus Carex. His Lordship died at Worthing, on the 12th of August, 1827, in his 85th year.

Mr. Kirby, and should have acknowledged the obligation sooner, but waited until the end of the harvest, with the ill-founded hope of having something to communicate relative to our little insect, worthy of your notice; for I am sorry to say that I have not had any success in discovering the perfect state of this insect." Mr. Markwick's observations, as far as he had an opportunity of carrying them, corresponded with the account given by Mr. Kirby: his remarks are concluded by asking the question (to which experience has given the answer which he himself suggested), "But after all, are not our fears with respect to the injury the wheat has received from this insect greater than they ought to be?"

Mr. Marsham, after adding his own experience upon the subject, says: "In addition to the foregoing remarks, I can only subjoin a few observations of my own upon some ears of wheat sent by Mr. Markwick, and let Mr. Kirby's accurate and valuable experiments follow in a separate paper:" having made these remarks, he concludes,—"the difficulty of investigating and fully explaining the secret works of the Creator must be my apology for still offering imperfect hints, instead of a complete history; but I have done so with a view to excite other labourers to favour us with their communications and experiments; for, to use the words of my valuable friend Kirby, "If we can advance one step, it is something; and who can entirely remove the awful veil that conceals from mortal eyes the full beauty of the face of nature,—that envelopes in darkness her secret operations? To get now and then a glimpse of Him who is wonderful in working, is all we can expect. The united force of such operations, like rays collected by a lens, which although when separate they operate but slightly either as light or fire, will in time illuminate a subject, and make us see clearly in what darkness we were before. To

collect these separate rays is the office of the Linnean Society, by whose means the light which each conveys is caught ere it be dissipated, and thus many mysteries of nature are elucidated which otherwise might for ever remain in obscurity."

Mr. Kirby's account of his experiments was given in the form of a letter, from which the following interesting extracts are taken :—

"Barham, Sept. 29, 1797.

"My Dear Friend,—When you left me in July last, you desired me to continue my observations upon those insects which infest the wheat, but particularly to endeavour to complete the history of the Larvæ, of which you have given an account in the Third Volume of the Transactions of the Linnean Society. In the year 1795, when you first began to investigate the subject, I observed very few of these larvæ; and considering the *Thrips physapus* as occasioning the greatest amount of injury, my chief attention was directed to that insect; but in the present season I have attended more particularly to the former. Whenever I have taken my walks, I have made it my business to examine those fields of wheat through which I have passed, and I have scarcely passed through any in which some florets of every ear which I examined have not been inhabited by these larvæ. But although I have found the larvæ so abundant, the pupa has very seldom occurred to me, so that for fifty of the former I have scarcely found one of the latter. As many as I collected I put into a tumbler, covered with gauze, in which they remained some time without any imago making its appearance: at length I observed the exuviæ of one lie at the bottom of the glass; but the imago I suppose had made its escape. Upon this I put the remaining ones into a phial, the mouth of which I secured with gauze four times doubled and tied close. Examining this one day, I observed a small fly walking up its side. I opened it carefully, and secured my little animal, which appeared to be a very minute *Tipula* of the colour of this paper. It is not described in Gmelin's edition of the Systema Naturæ, nor in any author that I have access to; therefore I shall describe it, and the Ichneumon which deposits its egg in its larva." [Here follows a technical description.] "After I had taken my little *Tipula*, I unfortunately lost it: I fastened it upon a piece of

paper with some gum water, and left it in an open box, that the gum might dry: I suppose some other insect took it, for when I returned to put it in a place of greater security it was gone, and ever since I have watched in vain for the disclosure of another.

"It is singular that this species of *Tipula*, which must necessarily be very common, should never have been noticed. So often as I have been, and at all times, in the corn-fields, with my attention always awake to entomological subjects, I do not recollect ever seeing it before. Since I lost it, I have searched for it in a field where I found the larvæ in greatest plenty: I have examined a barn where the corn from that field was laid up; and in both instances was unsuccessful. From these circumstances it seems to me probable that although one or two might be disclosed, by being placed in a situation where the sun shone upon them, yet that in general the fly does not make its appearance until the spring, so as to be in readiness to deposit its eggs in the wheat, when it has made so much progress in growth that the larva may be hatched about the time of its going into blossom.

"I have observed above that the pupæ bore no proportion in number to the larvæ which I met with. What, then, becomes of the remainder of the larvæ? Are they destroyed by that of the Ichneumon, or do they become the prey of some other insect; or do they fall to the ground, and remain there until the following spring?

"The pupæ that I have observed have been generally somewhat attached to the grain; and, what is worthy of notice, they seem invariably to choose for their habitation, in their intermediate state, a floret where the grain is uninjured, to which to attach themselves. I took up many roots of stubble to see if any pupæ were concealed in it, but if there were any there they escaped my notice from their minuteness: it seems not probable, nor analogous to the general proceedings of nature, that it should be indifferent to them whether they go underground, or remain in the ear when they assume the pupa.

"That they are destroyed by any other insect than the Ichneumon I have no reason to believe,—and it seems to me most probable that this little friend to man is the destroyer of the greater part of them. .... The superstition of the ancients, had they been acquainted with the advantages which appear to be derived to man through this important though minute link in the chain of creation, would have erected altars to it as a beneficent deity: can we, who enjoy the clear light of revelation, do less than adore and extol that goodness which thus

preserves a due balance in his works, and says to the destroyer, 'thus far shalt thou come, and no farther?' The numerous species of the genus *Ichneumon* seem to have been created on purpose to keep within bounds the other tribes of insects..... were it not for this genus we should not be able to stir, nor even breathe, without being annoyed, nay, even suffocated, by myriads and myriads of troublesome animals, which are now taught to know their proper bounds, and answer the end for which they were created. But why do I thus moralise to you, to whom these reflections are perpetually recurring?

"It is singular that most people who are acquainted with the larva of the *Tipula tritici* mistake this friendly Ichneumon for its parent, and thus impute all the mischief to the very creature which is appointed to prevent it. It is some satisfaction to me to confirm your opinion, and do justice to our little benefactor, and to point out where the odium ought to fall.

"To see our little Ichneumon deposit its egg in the caterpillar of the wheat fly is a very entertaining sight. In order to enjoy this pleasure I placed a number of the latter upon a sheet of white paper, and then set an Ichneumon down amongst them; she began immediately to march about, vibrating her antennæ very briskly:—a larva was soon discovered, upon which she fixed herself, the vibrating motion of her antennæ increasing to an intense degree; then, bending her body obliquely under her breast, she applied herself to the larva, and during the insertion of her aculeus and the depositing of the egg, her antennæ became perfectly still and motionless. Whilst this operation was performing the larva appeared to feel a momentary sensation of pain, for it gave a violent wriggle. When all was finished, the little Ichneumon marched off to seek for a second, which was obliged to undergo the same operation: and so on to as many as it could find in which no egg had before been deposited; for it deposits only one egg in each larva. I have seen it frequently mount one which had been pricked before, but it soon discovered its mistake, and left it. The size of it is so near that of the Tipula, that I imagine the larva of the latter cannot support more than one of the former; and therefore instinct directs it to deposit only a single egg in each: besides, by this means one Ichneumon will destroy an infinite number of larvæ.

"The larva of the *Tipula tritici* (as Mr. Markwick has well conjectured) appears to feed upon the pollen or dust of the antheræ..... I could never discover that the grain was injured in any other way by this insect, but it invariably produces the inanition of the floret.

"Of all the insects that are found in wheat, the *Thrips physapus* in all its states is by far the most numerous: my opinion remains still unaltered, that it derives its nourishment from the grain.

"I remain, &c. &c."*

If there are any persons now living in this country who have never heard of mildew, blight, and smut, attacking wheat, the most important of all our crops, they must have had their ears closed, or else have been entirely absorbed by city pursuits; whilst in the country there are few of any intelligence who are not aware that most of the various diseases which affect the ears of corn are attributed by naturalists to the growth of parasitic fungi. There was a time, however, and that not very far distant, when many strange theories as to the cause of these diseases were propounded; and we are indebted to the practical experiments and accurate observations of modern botanists for much valuable and useful information upon this subject. Although every question connected with these marvellous visitations has not been solved, yet during the last fifty years great advances have been made. In the year 1799, Mr. Kirby speaks of the knowledge of this class of vegetables as being *adhuc in incunabulis*. It had been his intention to carry out the investigation, to distinguish the diseases, and sift as far as possible the cause to the bottom: other engagements, however, which we shall have afterwards to notice, prevented this. Having made observations, and collected much information from his friends, especially from Mr. Lathbury, he framed a paper from his notes, and sent it to the Linnean Society.

The paper, though it did not possess the charm of novelty,

* This letter was published in the Linnean Transactions, Vol. iv. p. 230.

yet serves to mark the progress that was being made in this department of vegetable life, by the fact of its being admitted into the published Transactions of so learned a body: it was read Feb. 5, 1799.

Mr. Kirby distinguishes accurately between *Reticularia segetum* of Withering, commonly known as Dust Brand or Smut in the eastern counties, and *Uredo caries*, Pepper Brand, Brand or Bladders. The reason is assigned for greater injury arising from the latter than from the former; which is, because *Reticularia segetum*, or, as it is now called, *Uredo segetum*, consumes not only the farinaceous part of the grain, but also the arillus and chaff, so that it disperses itself before the corn is cut, and therefore the injury is confined to the quantity of grain destroyed in the field. With *Uredo caries—i. e.* Brand or Bladder—the case is different; this does not eat through the arillus and disperse itself, but is carried to the barn, where, in process of threshing, it materially injures the sample.

The advantages of dressing and preparing the seed with lime and chemical ingredients, which is now universally adopted, had been denied by some cotemporary writers; but Mr. Kirby, by the experiments he reported, clearly proved the benefit. As to the cause of the appearance of these diseases he remarks: "Some take the dust for the eggs of insects, and others adopt what appears to me the most probable opinion, that this evil is occasioned by a minute vegetable of the order of Fungi."*

As to the manner in which Brand is propagated, a conjecture is hazarded:—"Perhaps, then, the uncommonly minute seeds of this fungus may attach themselves either to the *plumula*, and so pass through the air-vessels into the

* Linnean Transactions, Vol. v. p. 115.

plant; or else to the *rostellum*, which to me seems most probable; and in that case they may be propelled through the sap-vessels with the sap, till at length they arrive at their final seat, the heart of the germ.*

The next fungus noticed is the *Uredo frumenti* of Sowerby, supposed by that gentleman, and many others, to be the cause of blight. With much diffidence Mr. Kirby suggests that *U. frumenti*, by destroying the stalk, debilitates the grain, and renders it a prey to some other of the fungi. Here he says, "I doubt not but those gentlemen will readily excuse my dissent from their sentiments in this instance, and should future examination prove me in the wrong, I shall with pleasure retract. In subjects not thoroughly discussed and understood, the collision of opinions contributes very much to bring hidden truths to light."†

* Professor Henslow says: "Although the bunt fungus confines its attacks to the young seed, it seems to be a condition essential to its propagation that it should be introduced into the plant during the early stages of its growth, and that its sporules are most readily absorbed by the root during the germination of the seed from which the plant has sprung."—Quoted in "Fullarton's Rural Cyclopædia," art. Smut.

Mr. Sidney says: "That the sporules enter by the roots and circulate in the plant, has been the surmise of most observers. Some recent experiments made by Mr. Berkeley appear to establish the theory that these contents of the spores do enter into the plant in the way suspected, and grow."—Ibid.

† Linnean Transactions, Vol. v. p. 123.

To those who would know more on this subject I would recommend the attentive perusal of the following works:—

A pamphlet by Sir Joseph Banks, entitled "A Short Account of the Disease called the Blight, Mildew, and Rust," 1806.

The Rev. Edwin Sidney's "Blights of the Wheat."

Professor Henslow's Papers in the Journal of the Royal Agricultural Society.

The next paper which Mr. Kirby contributed to the Linnean Transactions was upon the subject of insects that prey upon timber: it was read November 5, 1799.

In the early part of the paper Mr. Kirby goes through the orders of insects which feed or take up their habitations in timber. Appropriate remarks are made upon the habits of the most striking of these insects; pointing out at the same time that they accomplish a task allotted to them by a wise Creator, and, by a partial evil, in the end promote the good of the whole. Speaking of the Lepidoptera, Mr. Kirby notices (of an insect in another order) what passes before the eyes of thousands, yet is noticed but by few. "I have often been highly amused with the common wasp, which, though a mischievous, is at the same time a very ingenious animal, employed in scraping gate-posts with her strong maxillæ, to collect materials for her nest:—a sight which Reaumur* informs us it was long before he could enjoy."†

The last order which is referred to, though not the least in regard to the numbers which it adds to the ranks of insects which prey upon timber, is that of the Coleoptera. After remarking upon the gigantic *Lucanus cervus*, and others of the same genus, Mr. Kirby says:—"The several species of the genus *Ips* feed upon timber, between the bark and wood, upon the surface of which they usually trace, in feeding, what Linnæus calls pinnated labyrinths, in which a number of lateral lines, nearly parallel with each other, form right angles on each side, with a central one, and thus the bark is finally separated from the wood. Most trees, I imagine, have a particular species of this genus assigned to them,—even shrubs do not escape; for Whin or Furze (*Ulex Europæus*)

* Reaumur, Tom. vi. Mem. vi. p. 180.

† Linnean Transactions, Vol. v. p. 248.

is preyed upon by the minute *Ips rhododactylus*, which I have frequently taken coming out of the larger sticks of a dead whin fence, in my garden."* Next to these follow the *Ptini*. "Of all the species of this genus *Ptinus pertinax* is the most mischievous; any kind of wood that begins to have a tendency to decay it attacks without mercy. I speak this from experience, having a chamber in my house, the floor of which is quite filled and perforated in every direction with this destructive little insect; and my walnut-tree chairs it has nearly reduced to the same state that Linnæus observes† it had done his."‡

After observations on the *Curculiones*, the following interesting passage occurs:—"There is one insect which, although not as yet discovered in England, ought not to be passed over, as its history furnishes a striking proof how useful the study of Natural History may be made when applied to œconomics: the insect I allude to is the *Cantharis navalis* of Linnæus. Our President, the liberal possessor of the Linnean treasures, informs me, from the 'Iter Westrogothicum,' that the oak timber in the royal dockyards of Sweden being observed to have suffered considerable injury from some unknown animal, Linnæus was directed by his Swedish Majesty to trace out the cause, and point out some remedy which might prevent the farther progress of so alarming an evil. Upon inquiry, he discovered that the mischief was occasioned by this *Cantharis*, and recommended that the timber should be immersed in water during the usual time of the insects' appearance. This advice was pursued, and the dockyard timber received no farther injury."§

* Linnean Transactions, Vol. v. p. 249.

† "Terebravit et destruxit sedilia mea."—Linn. Syst. Nat.

‡ Linnean Transactions, Vol. v. p. 251.

§ Ibid.

The paper concludes with observations upon *Cerambyx* (*Callidium*) *violaceus*, principally derived from a communication made by Mr. James Trimmer, of Brentford. The description of the operation of depositing the egg by this insect between the wood and the bark is very interesting, and the advantage of stripping the bark from fir timber used in its rough state clearly demonstrated. The description proceeds :—" When the insect is about to assume the pupa, it bores down obliquely into the solid wood, to the depth sometimes of three inches,—seldom, if ever, less than two. One would wonder how so small and so seemingly weak an animal could have strength to excavate so deep a mine; but when we see its maxillæ our wonder ceases : these are large, thick, and solid sections of a cone dividing longitudinally, which in the act of mastication apply to each other the whole of their interior plane surface, so that they grind the food of the insect like a pair of millstones."*

Very accurate drawings of the insect in all its stages, made by Mr. Lathbury, accompany the paper.

* Linnean Transactions, Vol. v. p. 255.

CHAPTER IX.

Notes of a Tour from Barham to Holme.

"Minutes of a Journey from Barham to Holme in Norfolk, by Brandon, Wereham, and Lynn; began August 19th, in company with my dear wife.

".....Reach Mr. Forby's,* at Wereham, about 2. In the churchyard examined the tombs of Mr. Ripper's ancestors. Mr. Forby has an excellent house and garden, well stored with fruit and vegetables. The inhabitants of this place are remarkable, the men for intemperance, and the women for ill-language. Forby has a sketch of the late Mr. Davy,† of Onehouse, taken by Woollet, when he was shaving, and etched by Clement Chevallier. Mr. Forby amuses us after dinner with the history of Mr. Blair and Mrs. Robinson's pot.

"August 21.—Leave this hospitable roof at 10, and steer for Lynn. Forby gives me a disheartening account of the narrow streets in Lynn, which produces some uneasy sensations in my mind: the road, however, was very pleasant, and the country woody and fertile. The surveyors of the roads

* The Rev. Robert Forby, Rector of Fincham, in Norfolk, and author of "The Vocabulary of East Anglia," was educated under Dr. Lloyd, at the Grammar School of Lynn, from whence he removed to Cambridge, where he graduated in 1781, and soon after was elected Fellow of Caius. Upon the death of his uncle, the Rev. Joseph Forby, he succeeded to the family living of Fincham, where he died December 20th, 1825: having fainted while taking his bath, he was suffocated in the water.

† Author of "Letters on Literature."

do not cause all the high trees to be cut down by the road-side, which was a great comfort in this hot and sultry season. Large oaks here and there overshadowing us, our poor Zarah, none of the readiest to move, found a great relief.

"Not long after leaving Wereham, we come to Stradset, Green, remarkable for a grove of oaks planted in quincunx. There were ten rows, and whichever way you looked they were regular lines. No beauty this, certainly. From hence we passed through Shouldham, Wormegay, and Setch Turnpike, and so to Lynn, which we entered by the south gate, not without considerable apprehension on my part, on account of its narrow, rough-paved streets. But I was agreeably disappointed when I found them very tolerable, and met with fewer carriages and obstructions than I expected. Forby had purposely exaggerated things, that it might produce this effect, for which I was much obliged to him. Met Sutton at the Star in Damgate or Grass-Market,—a good inn, though chiefly used by farmers. Of Lynn I can say but little, having no time to explore its lions.....They sell filberts here not by measure, but by tale; they were at this time 6d. per 100. We were well entertained at the Star; they lay soles in the sun before they cook them, which improves them.

"We started from Lynn at half-past 4, and come to Castle Rising."

After a short history and description of the Castle, the journal proceeds:—"Without seeing anything remarkable, we arrive at Dersingham-moor, where we observe, for the first time in my life, the odoriferous *Myrica gale* in great abundance: the Cranberry also (*Vaccinium oxycoccus*), and *Narthecium ossifragum*, were both new to me. At Dersingham Dun-cow, we take in a cargo of cranberries for tarts, and proceed from thence to Snettisham.....We pass through Heacham, catching the sea at intervals, as long as the light would permit: passing through Ringstead, we

reach Holme at about half-past 9. After eating our supper with appetite, we retire to rest,—equally welcome to man and beast.

"August 22.—This village, although its northern boundary is the ocean, is rendered pleasant by numerous enclosures, and by many shady lanes, which tempt the steps to explore them, for the sake of the shade they afford from the sunbeams. We walked in a pretty, natural wilderness, formerly a chalk-pit, rendered delightful by a number of winding paths, entangled now and then, 'tis true, by bush and briar. This spot produces several species of wild roses,—*R. rubiginosa, R. arvensis, R. canina, R. villosa,* and another nearly related to *canina,* but *capsulis pedunculisque hispidis,* which we apprehend to be nondescript. The Damascene is said to be wild in this parish. *Statice reticulata,* once regarded as so scarce, here covers whole acres of marshes near the sea. You find also here, and going to Thornham and Hunstanton, the following plants,—*Salsola fruticosa,* and *S. kali, Convolvulus soldanella* and *Lepidium ruderale. Atriplex pedunculata,* and *Bupleurum tenuissimum,* are also common in this village.

"The Church is an exceedingly good building, erected about twenty years since. ....There is no difference in the pews for high or low in this church,—which is very proper; for when the rich and poor meet together to worship their common Creator and Redeemer, the distinctions of rank and wealth should be kept out of sight. In the church is a brass plate, to the memory of Henry de Notyngham and his wife, with this inscription:—

'Henry Notynghame and hys wyffe lyne her
Yat madden thys chyrche, stepull, and quer,
Two vestyments and bells thei madden also
Crist him sav therfor ffro wo.
Ande to bryng ther souls to bliss of Heven
Sayth Pater and Ave with mylde Stephyn.'

"He was a judge itinerant, in the reign of Henry IV., and had a seat here, now belonging to the Holleys, and also at Ringstead.....

"In the morning I walked to the sea-shore; the marshes here are defended by an immense rampart of sand, which is kept from blowing away by a species of reed, *Arundo arenaria*, which is called Marram; a corruption probably of Muran, Erse, and Murruinagh, Irish.* The part we visited is called the Cockle Sea, and here the girls of the village rake up cockles (*Cardium edule*), whose small heaps of vermiform rejectamenta appear to indicate that some animal lurks beneath. We examined these heaps, but did not succeed in our endeavours to discover the animal. As we returned homewards, we passed by the remains of a small building near the sand bank, of which only the gable ends are standing. It was erected, it seems, by Sir Hamon l'Estrange, during the time of the civil wars, as a retreat for himself; yet from its situation it could scarcely be intended for concealment, standing in an open spot, and visible to all who chance to walk that way. On the end next the sea is this inscription—

'Splendidis valedico nugis.'

And on a square stone the date 1649. On the other end I read—

'Heu tandem satis insanivimus.'

* The plants which chiefly contribute to this important end are, *Psamma arundinacea, Elymus arenarius,* and *Triticum repens;* they are all usually called Marram grasses; but the true Marram is the sea weed, *Psamma arundinacea* (*Arundo arenaria, L.*). The word *Marram* is said to be derived from the Celtic "Maraim." Lightfoot says it is called "Muran" in Gælic; while Taylor suggests it is from the Dutch "Marren," to bind.

Whether he ever resided in this building seems not certain. It consisted at first of two apartments, one over the other: but the lower one is nearly filled with sand, so that only the top of the door and window are now visible.

"After tea we return, accompanied by the ladies, to the shore: the tide was retiring. Several bivalves, viz., *Solens*, *Mytilus modiolus*, and *Pholas candida*, were plentiful. We wander towards Hunston (Hunstanton) cliff: this is a perpendicular rocky eminence, consisting of regular layers, —first of car, a kind of red sandstone; then a vein of ferruginous or ironstone, as red as brick; next a stratum of chalk or limestone; and, finally, a deep stratum of chalk, less white, covered by a thin coat of sandy soil. In front of the cliff were large masses of pudding stone, which appear firmly fixed in the sand, and are often distinguished by a thread-like white vein running across them. The appearance of the cliff was truly grand. Large masses of limestone, which had been brought down by the attrition of the waves, were laid up against it, piled up irregularly one upon another: these, with the immense pudding stones in front, added to the wildness and sublimity of the scene.

"The cows during the hot weather, when they are attacked by the fly, get over the meales,*—the name given to the sand bank,—and will sometimes go a considerable distance seaward, where they stay until the tide flows and the waters surround them before they think of returning, and instances have occurred of their staying too late to make good their retreat, and they have been carried off by the waves. Their object in leaving the marshes for the sea is to escape the *Tabani* and *Stomoxys*, which never follow over the meales.

* Meales or males,—probably from the Anglo-Saxon "Mœl" a boundary; but Spelman says it is from the Swedish and German "Must," dust.

"August 23.—We set off this morning, after breakfast, upon an excursion to Hunstanton Cliff and Light House. The day was remarkably fine, and very little wind agitated the fluctuating element under our feet, whose multitudinous waves, glittering like silver from the sunbeams, came in quick succession, and dashed lightly upon the shore. In the evening, the appearances produced in the world of waters by the declining luminary were exceedingly pleasing, and to us, who were not accustomed to the view of this stupendous part of the creation, perfectly novel. At one time the western margin of the deep was edged with a narrow silver stripe, not extensive, but inconceivably luminous; at another time, and in another direction, to the marginal stripe was added, at a small interval, a triangle of dazzling glories, from which often a finer line extended to the shore beneath us.

"In the light-house paddock, Mrs. Styleman has erected a booth for the accommodation of parties of pleasure: here we regaled ourselves with pigeon and leveret pies, and enjoyed the exhilirating prospect of the ever-fluctuating world of waters, which lay in boundless extent before us. But mine, like human joys in general, was damped by the bitter ingredient of pain; for my enemy the ear-ache attacked me. 'Nocet empta dolore voluptas,' saith the moralist; but not so when 'comitatu dolore;' for 'without thorn the rose' is the product only of Paradise, ere man fell from righteousness. Now our natural inheritance are pain and sorrow, and our sentence death: but if pain and sorrow produce their due effect, then, indeed, 'mors janua vitæ' is the good man's motto. We return to Ringstead.....

"August 24.—Mr. Styleman and his son call this morning: the former a very agreeable chatty old gentleman, in appearance something resembling old Mr. Chevallier; the son, Mr. Nicholas Styleman, a very pleasant middle-aged

man, benevolence beaming in his countenance, a good deal resembled my worthy friend Mr. Hazell.....

"August 27.—I took a walk this morning to Thornham, a small fishing town, of which Sutton is Vicar; by the way I notice *Rosa eglanteria*, or a strong-scented variety of *R. rubiginosa*. The capsules are usually ovate and hispid, but not invariably: upon the same branch I found two smooth, and one hispid: the capsules are not always ovate in *R. canina*, and vice versâ in *R. arvensis*, *R. villosa*, &c.

"The elder Mr. Styleman dined with us,—a respectable old gentleman, who, in his best wig, reminded me much of my respected friend, the Reverend John Bacon, of Shrubland.

"Forty years ago, I was told, soles and breadcocks (small turbots?) were caught here in great abundance; but now—whether from the want of fishermen or scarcity of fish is not certain—they are seldom met with. They speak much of the excellence of a kind of fish, which they call scülls, that are caught here, synonymous with the brill: sandlings (*Pleuronectes Limanda*), which here are called sandabs or dabs, and butts, also abound. Oysters are now the principal object of their fishery, which they catch with a dredging net: they are known generally under the name of Burnham oysters: they are immensely large, and excellent when escalloped. They do not, however, in flavour equal the Colchester.* The *Cancer mænas*, which abounds upon the shore, they call swinards. There is an abundant crop of apples in this neighbourhood, which are shipped in great quantities for Hull and Newcastle.

"August 28.—Set off this morning, a little before 8, for Holkham House.....

* There is a small oyster known in the London market as the Burnham oyster,—which comes, I believe, from Essex.

"From thence, by Wells and Holt, we reach the romantic village of Stiffkey,—or Stukey, as it is pronounced. The country here is very diversified, and a fresh-water stream meandering through the meadows and broken ground was a pleasing object to us who had seen no meads and rivulets since our arrival at Holme. On the left are the rectory gardens, said to be very elegant; they are walled in, and were formed by the Rev. Dr. Lowe, Canon of Windsor, the intimate friend of Bishop Newton, who was married to his first wife, Miss Trebeck, according to Sutton, at this place. He himself does not state where his marriage with this lady was celebrated, in his account of his life. From Stukey we proceed through Morston, Blackeney, &c.....We arrive at the Feathers, at Holt, about 9: after an excellent supper of veal cutlets, we retire to our repose somewhat weary.

"August 29.—On our way to Cromer we pass through the village of Weybourn, when a magnificent scene caught our attention: an amphitheatre of hills, much higher than we the inhabitants of Suffolk are accustomed to behold, rose from the level of the country, including within its ample range many hundred acres of land. This is called Weybourn Hoop. From hence we proceed to Lower Sheringham, a village situate upon the cliff, where we put up at a small public-house: we were shown into an apartment near the edge of the cliff, where old ocean was exhibited to us in perfect beauty. The day was fine, but some clouds kept passing over the blue vault, which produced a variety of tints upon the expanse before us: where the sun was shining sea-green (glaucus) prevailed; where the shadows passed, a deeper colour of a bluer hue informed the eye that a cloud interrupted the sunbeam: sometimes large shoals of sea-weed gave a richer tint to the buoyant wave. The whole ocean, as far as the eye could command it, reflected the glories of the sun; the curling waves whitening into foam, which, when they rose to break upon the shore, was white as

driven snow. Walking on the cliffs to the left of the village, Sutton and I found a few stems of *Orobanche cærulea;* likewise *Medicago falcata,* which is said to have been originally the outcast of a vessel on this shore. We afterwards ascended a conical hill, called Beeston Hill: from it we had a delightful view of the sea: amongst masses which formed its sides to seaward, we were much amused at seeing the little rabbits scudding about in all directions, and climbing their steep sides with great ease and speed. There was another hill beyond this, of nearly the same height and description, except that it retired farther from the cliff. We looked in vain on these hills for *Hippophae rhamnoides,* upon which Sutton had understood Mr. Dawson Turner had found it. On the brink of the cliff below the first hill, I find *Lepidium latifolium*.....

"From hence we set off for Cromer: at a considerable distance from the village, pass the ruins of Lower Sherringham Church. The inhabitants have two miles to go to Upper Sherringham to attend divine worship, which might have been saved had they attended to their own church. We pass through Beeston, and soon after ascend a sandy hill: when we reach its summit, the ocean, extending far and wide, with its surface enlivened by numerous vessels moving in different directions, their sails whitening in the sun, on one side burst suddenly upon us: below was the little town of Cromer, nestling humbly in the valley, in the midst of which was singularly conspicuous a handsome church, whose tall steeple had gradually risen upon us as we ascended the hill. To our left, on a cliff, was a small battery of four guns; and on our right, at a due distance, was a grove with a windmill in front. Beyond the town, upon a lofty hill, the light-house, with a tent pitched near it, formed a striking termination to this very picturesque scene. On the beach beyond the town were small parties of the com-

pany taking the amusement of walking and riding. Upon the whole, the imagination could scarcely paint a more lively and pleasing scene.

"Descending the hill we make for the Hotel (for by this name a shabby inn in front of the sea is dignified).....

"Afterwards, on viewing the church, we were vexed to find so many noble windows stopped, and the light admitted by little crannies of light-holes, in patches here and there on the face of the defunct window, of which only one half was left unstopped on each side."

The excursions of the next two days must be passed over; not that they were barren of incident, but the narrative would occupy too much space, and to curtail it would be to deprive it of much of its interest.* It will be sufficient to say that the travellers visited Binham with its abbey, Walsingham with its wishing wells, and returned by Burnham to the quiet village of Holme.

"September 1.—Set off this morning to breakfast with Mr. Styleman, at Ringstead Parsonage, on our path to Dersingham, where we met with a hearty welcome from the good old gentleman, who was walking before his door, and feeding his poultry, accompanied by sweet little Anne North, his grand-daughter. Pass an agreeable hour with this family; feel in myself an unusual disposition to prate,—unusual indeed in me, before strangers especially. Faden's large Map of Norfolk, suspended against the wall in a long mahogany case, cost £6. 16s. 6d.

"Pass through Heacham . . . . By the way, on *Verbascum pulverulentum*, I capture *Chrysomela (Haltica) Verbasci*, which was abundant.

"Turning our trusty steed off to graze, we walk off to botanize and entomologize on the moor and hills of Der-

* Being compelled to shorten this journal, I have omitted the description of this as well as of other places which are well known.

singham, celebrated by the botanists of Norfolk, and not without reason; for we find, in a sandy moist spot, *Pinguicula vulgaris*, and in all the more humid parts of the hill and dale, in vast abundance, *Narthecium ossifragum; Myrica Gale*, one of the most spicy of English plants, both foliage and fructification. Sutton observed that the male plants are in general taller than the female, probably for the purpose of impregnating the germens of the latter with the prolific dust of the anthers. The moor was covered with *Vaccinium oxycoccus* (Cranberry), whose pleasant sub-acid fruit is very refreshing in hot weather. The children of the village gather these berries, and sell them at one shilling per quart in the neighbouring villages. This is the only spot in Norfolk in which they have been hitherto discovered.*

"After discussing a beef-bone, and refreshing ourselves with some excellent ale, we return to Holme.

"September 3.—Walk this morning to Hunstanton, to view the church. My good friend leads us through a grove, which brings us out near the hall; to the left we perceive an irregular piece of land,—perhaps the site of the original mansion. These grounds were once, no doubt, exceedingly pleasant, and perhaps the favourite haunt of the ancient family, once the proprietors of it, but now all numbered with the dead. By the side of the grove, to a considerable distance, runs or did run a pleasant stream, whose bed was kept up by sluices now in ruins, and along the margin of which, beyond the termination of the grove, a pleasant willow walk extended, which led to the meadows adjoining the sea-shore. Here, perhaps, the loyal Sir Hamon mused

* The Cranberry (*Vaccinium oxycoccus*) is found at Roydon and Bawsey, and till within the last thirty years at East-Winch,—all not far from Dersingham; it has also been found at Horning on the East, and Wretham on the South side of the County.

upon the sufferings and martyrdom of his beloved Sovereign, and wept over the misfortunes of his country, and crimes of his countrymen. He did not long survive the scenes which he deplored, for he died A.D. 1654.

"From hence we proceed to the church by the private path of the family,—many a melancholy idea presenting itself to my mind: fancy thinks she sees a stately train of ruffled knights and dames, passing to the house of God, to pay their due oraisons—once, it may be, the fathers and patrons of the village poor,—the delight of their neighbours, and ornament of their country. On entering the churchyard on the right you see a large tumulus of earth, extending east and west; but the corpse of what mighty one it contains is not known. The church porch has on each side two handsome circular windows, but its effect has been spoiled by the erection of a room over it. The key of the great door seems to be of equal antiquity with the church itself. The church is spacious, consisting of middle and side aisles....."

After giving an accurate account of the mural enarched tombs, &c., the Journal proceeds:—"Among the tombstones in the chancel was one to Sir Hamon, with this inscription—

'In terris peregrinus, nunc incola cœli.'
'In heav'n at home, O blessed change!
Who while I was on earth, was Strange.'
'Hamo Extraneus, Miles, obiit 31 Maii, 1654, ætat. suæ 71.'

"Leaving the church we return to the meadows.

"September 4.—Walk to the sea, beyond the sand-hills, which at low water were nearly a mile from the sea; the sands of the intervening beach were all in motion,—the wind N. W., high and blustering. Their appearance was singular, as if volumes of smoke were curling over the

beach through its whole extent, which filled our shoes. It is this circumstance that produces and repairs the meales, or immense banks of sand collected and kept together by the marram, which is the instrument by which Providence says to the raging sea, 'hitherto shalt thou come and no farther, and here shall thy proud waves be stayed;' and thus prevents the coast becoming a prey to the ocean.

"Dined with Mr. Styleman, Sen., where we met a very agreeable party,—Sir Mordaunt Martin and Lady Martin, Mr. H. Astley and his lady, &c. &c.

"As for old Mr. Styleman he outdid his usual outdoings: so much activity, pleasantry, and good humour,—so much, and such benevolent attention and politeness,—are seldom seen, even in a young man, in half the degree they appeared in him. Mrs. North and Miss A. Styleman were as agreeable and engaging as possible. Nor let little Anne North be forgotten, who, when she appeared, was as interesting and pleasing in her little way as any of the party. Upon the whole, a pleasanter day, with a more agreeable assemblage of guests, was never spent.

"From the old gentleman I learnt that the white sand at Dersingham is an article considerably in demand,—whole vessels being sometimes laden with it. It is carried to Newcastle for the glass manufactory. He also told me that cranberries had not been discovered at that place till within his memory, and that the discovery was made by some bankers (men who work in the fens) from Lincolnshire. The farmers fix the day when the people are to begin to gather them.

"September 5.—We walk to Thornham. Here we saw three girls collecting cockles (*Cardium edule*) in the sand: they discover the animal's nest by a small hole, scarcely a line in diameter, with a slight degree of moisture around it: to do this requires practice, as there are innumerable

other holes: they lie very near the surface. A fisherman we met with told us that from some alteration in the sands, the number of shell-fish upon this coast is considerably diminished of late years, and these being the principal food of soles and other flat fish, has occasioned a great diminution of them also.....

"After tea we walk to the beach, when I amuse myself in taking cockles, which I found plentiful enough, but small. When stewed they are very good. Amongst them happened to be *Tellina incarnata,* which I thought was better than the cockle.

"A remarkable history of a duck was related to Mrs. Kirby by its owner, and she saw its habitation. It has made its nest for fourteen years on the branch of a tree that hangs over a pond: when the eggs are hatched, the young ducklings slip from the bough into the water.

"September 6.—Walk by the marshes towards Thornham harbour. Take several new *Grylli. Bupleurum tenuissimum* copious upon the bank, also *Salsola fruticosa.*

"There appear to be evidently on this coast two species of *Salicornia,*—one erect, with the flower spikes more slender and longer, with fewer florets; the other procumbent, spreading, with flower spikes thicker, with numerous florets, and of a paler green, with the leaves in general more obtuse. The last is not so common as the other: both species appear to be digynous.

"September 10.—This morning we accompanied a fisherman to the Crab-sea, where we were amused by his method of taking these animals. At a distance of half a mile or more from the marram or sandbank, the shore is clayey, and in some places hollows are made by the tides, so as to leave some parts higher than others with perpendicular sides. In these sides, early in March, the fishermen make horizontal holes, which from that period, and during the

summer months, the crabs enter at spring tides. They pull them out of their hiding places by means of a hook at the end of a stick, which the animal lays strong hold of, and will not let go.

"Upon these clay banks are vast quantities of mussels (*Mytilus edulis*), which fasten themselves to the roots and stumps of trees which still remain in the soil: this part of the shore appears to have been formerly a thick grove, which extended more than a mile into the sea.

"We walked also to that part of the sea called the Oyster-sea. A species of *Terebella*, probably *T. conchilega*, was plentiful upon the shore: its tubes, however, were not set with shells, but chiefly with sand and small stones, which covered a membranous tubular case, furnished with tentacula at the extremity. In this case the animal resides, and these tentacles, with part of the tube, appear above the ground; the remainder is plunged into the sand. They are perfectly cylindrical.

"Vast quantities of Fuci of different kinds are cast up upon the shore, and many we saw growing in their native bed: amongst others, most noble specimens of the gigantic *F. saccharinus*, and one of *F. verrucosus*, very plentiful, and in full fructification. *Flustra*, *Sertulariæ*, and *Spongiæ*, also abounded. Dead shells of *Mytilus modiolus* were very common; but we could not meet with any live ones. The same observation may be extended to the *Mya truncata*. At certain seasons *Echinus edulis* is common here, but we have not yet met with a single specimen, either dead or alive.

"September 11.—Walk this morning to take leave of the sea. Upon the top of the meales we are surrounded by a flight of male gad-flies,—I think *Œstrus equi*, L.: there were also many *Phryganeæ*, but most of the same species, the male of which has a green body. Upon the

beach find *Solen falcata:* Mr. Styleman informs us, with respect to the common Solen (*S. siliqua*), that when alive, if it perceives any noise, it darts down under the sand, and throws water up to a great height. In a little basin in the marram, find in abundance *Anagallis tenella* and *Hydrocotele vulgaris.*

"September 12.—At 9 o'clock this morning we quitted with regret the peaceful and happy cottage of Sutton and my Sister, the quiet enclosures of Holme, its marram bound cliffs, and the blue expanse of sea."

Three days were occupied in the journey home, which afforded ample opportunity for visiting scenes which are possessed of interest from their connection with history, or from other similar circumstances. Mr. Kirby's description of these spots is not less graphic than that of those through which we have just passed, although they lack perhaps somewhat of that joyous spirit which resulted from the society of his beloved friends. The gratification and pleasure of the whole visit is summed up in his own words in the last day's journal, where he says—

"September 15.—Arrived safe, after a month's absence, at dear Barham; having met with little else but fortunate and pleasant weather and circumstances during our journey, —for which, all thanks and gratitude are due to the great Father of mercies, and source of every blessing. To whom be glory for ever and ever through Jesus Christ our Lord. Amen."

CHAPTER X.

Mr. Kirby loses his Father.—His friendship and connection with Mr. Sutton.—Mr. Kirby writes a theological work.—Sketch of its contents.—An effort made to establish a Museum at Ipswich.—Correspondence with Dr. Smith, President of the Linnean Society.—Mr. Kirby obtains the living of Barham.—Laments his inactive life.

In the present chapter I propose to notice some events connected with Mr. Kirby's life which occurred between the years 1790 and 1800, the period during which his correspondence was carried on with Mr. Jones and Mr. Rodwell, and in which he also contributed the papers to the Linnean Society which have already been brought forward.

The year 1790 appears to have passed in the ordinary routine of his parish duties, and in the pursuit of his favourite study of Natural History, relieved by one short interval of relaxation to mind and body, arising from a visit to Cambridge.

The year 1791, as far as regards the pursuits of Natural History, was unmarked by any event of importance, unless it be that his scientific friends now observed a taste for Entomology so strong, that it threatened to obscure his favourite study of Botany. Amongst the friends whom he occasionally met at Dr. Gwyn's were Dr. Smith and Mr. Woodward. The former was not slow in discovering the power and energy of Mr. Kirby's mind, and, anxious to show his appreciation of his worth, he presented him with some copies of dissertations which had been the property of Linnæus. They were accompanied with the letter which follows :—

"London, Nov. 11, 1791.

"Dear Sir,—According to my promise, I have looked over my Linnean Dissertations; and, although I have not duplicates of all those relating to insects, I have sent you such as I have, and have added all such as I could venture to spare of those which compose the *Amœn. Academicæ*, let the subjects be what they will; they may be amusing to you, and at any rate are a library curiosity. I wish I had duplicates of all for you. Mr. Marsham has been so much engaged in other business that he has done little in entomology for some time past: your insects, however, are not neglected, and we have studied them together. He is much delighted with your correspondence, and says you are really the most acute and industrious of all his correspondents. I am sure you will be better pleased with him the more you know him. I send this in a parcel to Dr. Gwyn, with a root of *Satyrium hircinum*, which I hope will flower under his care; and I hope you will not disdain to admire its singular figure, unless *Papilio iris* should happen to be perched upon it, and then I will forgive you if you do not perceive the *Satyrium*.

"I am, dear sir,

"Your most obedient servant and sincere friend,

"J. E Smith."

In the year 1791, Mr. Kirby lost his father. Although the severance of parental ties can never take place, where strong affection has existed, without present sorrow and grief, the pang of separation was in the present instance much mitigated by the length of time in which it had been foreshadowed. His father had been infirm and helpless several years, and was released from his suffering Dec. 25, 1791, in the 72d year of his age. A considerable portion of Mr. Kirby's time was during this year employed in matters of family business. Up to the date of his father's death his income had been slender, and consequently he had found it necessary to deny himself many indulgences connected with his favourite studies; his circumstances were rendered now considerably easier by the share of a small estate which his father left. For a short time he received a pupil into his house; but as he never appears to have had

more than one at a time, and by no means a large sum for remuneration, it is very questionable whether his object was employment, or improvement of his income. He did not long continue the practice,—doubtless from having other demands upon his time.

In the year 1793, an event occurred of great importance to Mr. Kirby as regarded his future sources of enjoyment: this was the marriage of his friend, Mr. Sutton, with his sister. Charlotte Kirby had married, in the year 1779, her cousin George Medows, who died in the year 1783 without issue. Mr. Sutton had been by accident introduced to Mr. Kirby during his residence at Cambridge; a friendship sprung up between them, which was continued after Mr. Kirby left; his friend Sutton remaining as a fellow of St. John's College. Subsequently the latter came to reside in the neighbourhood of Hadleigh, being appointed curate of Elmsett. Here the intercourse between the friends was very frequent, and the walk thither through the woodlands was a favourite subject for Mr. Kirby to recur to,—passing as he frequently did by the memorial of Taylor,* food being thus afforded him for many an hour's meditation. This intercourse led to an intimacy with other members of Mr. Kirby's family, and finally to the marriage of Mr. Sutton to his sister.

We must now turn our attention to Mr. Kirby's study, and see how he was occupied there.

For a long period his mind appears to have struggled to find vent for its powers. Bent upon employing his pen to

* Rowland Taylor, distinguished for his ability, learning, and piety, among the divines of the Reformation, suffered death at the stake on Aldham Common, near Hadleigh, in the third year of Queen Mary.—Heber's Life of Jer. Taylor, Vol. i. p. 6. A monumental erection marks the spot, and records his suffering.

some good purpose, it seemed as if controversy was the only quarter in which he was likely to find scope for his talent. More than once did he furbish up his armour, muster his forces, and sally forth to meet his foe; but as often was he doomed to disappointment, if such it can be called: error, ever light in its movements, shifting in its position, and changing in its form, eluded his grasp, oppressed as he was by the ponderous weight of his weapons.

The controversy with Mr. Evanson, referred to in a former page, had no sooner been given up, than he turned his attention to questions not so limited or personal in their character; though he still kept in view the disposition which was exhibited for taking every opportunity to weaken the authority of the sacred writings. He set himself, therefore, vigorously to work to defend those passages and books of the New Testament which had been most exposed to the cavils and exceptions of the modern school of criticism. The danger, he saw, did not arise from the works of open and professed infidels, but from those who came as avowed friends and guardians of truth. It is somewhat difficult to account for men thus endeavouring to undermine the credit of precious documents in which are contained declarations and doctrines upon which they themselves acknowledged that they grounded their hopes. By some it might have perhaps been done with the intention of refining the purer metal from alloy, for the purpose of cutting off from that which they believed to be genuine, any part which, from doubt or suspicion resting upon it, might cast a shadow upon the whole. This might be the case with some;* but

* Among the larger works of the period, we may notice "The Continuation of Koppe's Novum Testamentum Græce," the 7th and 8th volumes of which were published in 1792, by L. H. Heinrichs: they

with many others this kind of criticism was recklessly indulged in, (to impute no worse motive) to gratify their own vanity, and to exercise their talent for controversy, regardless of the consequence to weaker brethren. There were several writers of this description at the close of the last century, who commanded attention while they sheltered themselves under the names of men of weight, more especially under that of the learned Michaelis. The works appeared sometimes in the form of pamphlets, sometimes in periodicals and newspapers of the day. Taken by themselves they were insignificant; taken as a whole, they show that a spirit was abroad which is well described by a modern writer on the Canon of the Old and New Testament as having arrived at maturity :—

"There is something reprehensible, not to say impious, in that bold spirit of modern criticism, which has led many eminent biblical scholars first to attack the authenticity, and next to call in question the inspiration of the whole volume. To what extent this licentiousness of criticism has been carried we need not say; for it is a matter of notoriety, that of late the most dangerous enemies of the Bible have been found occupying the places of its advocates; and the critical art, which was intended for the correction of the text, and the interpretation of the sacred books, has in a most unnatural way been turned against the Bible; and finally, the inspiration of all the sacred books has not only been questioned, but scornfully rejected by professors of theology. They have had the shameless hardihood to send

are unhappily tainted with a lax system of interpretation and excess of philological speculation.—Vide Horne's Introduction, Vol. ii. Appendix, p. 242, ed. 1828.

Also, "A Translation of the New Testament from the Ancient Greek," humbly attempted by Nathaniel Scarlett, assisted by men of piety and literature. London, 1798.

This translation was one of the many works produced in conformity with the tenets of the Universalists.—Horne's Introduction, Vol. ii. p. 247, ed. 1828.

forth into the world books under their own names, which contain fully as much of the poison of infidelity as ever distilled from the pens of the most malignant deists, whose writings have fallen as a curse upon the world."*

In collecting his materials, Mr. Kirby derived considerable advantage from his friendship with Mr. Pearson, Fellow of Sidney Sussex College, Cambridge, who furnished him largely with extracts from such works as he had not the means of obtaining in his own neighbourhood. This gentleman feared lest the reputation of his friend should suffer from the host of assailants he was likely to bring upon him in consequence of the number of topics which he embraced: in one letter he writes to this effect:—

"Sept. 16th, 1793.—I shall be glad to hear a more particular account of your literary plans than your allegorical one was intended to convey. This, however, shows me you do not want courage in forming them; and I need not caution a commander like you to be aware of the peculiar danger of a defeat in such an enterprise as you seem to be meditating."

In examining the voluminous papers which Mr. Kirby had written and collected, it is easy to trace a gradual change in the plan of the proposed work, and to perceive that he aimed at adorning truth, as well as refuting error. The latter first led him to commence the task; and the light which broke in upon his own mind in pursuing it, he afterwards desired should be shared by others. After having collected materials from the writings of the Fathers, and from more recent writers upon the authenticity of the canon of the New Testament, he was led from external evidence of these books to a consideration

* "The Canon of the Old and New Testament Ascertained," by Archibald Alexander, p. 202.

of their contents, especially to those parts which had afforded so much matter for speculation and conjecture, bearing upon the future progress and welfare of the Church. The prophecies of the New Testament supplied him with a never-failing theme for inquiry and meditation. He delighted to dwell with profound and reverential awe upon the mysteries there declared, which, though couched in language dark and obscure, yet set forth to his imagination, with bright and transcendant lustre, the majesty and glory of our Redeemer's kingdom. Nor did the future glories and triumphs of Christ's empire and dominion alone engage his attention, —these, indeed, were the source of his joy; but it was ever present with him that woes and afflictions were foretold,— that by much tribulation the kingdom of Christ was to be purified, and finally established. He did not lose sight of the vials of wrath that were to descend upon apostate churches, or of the instruments by which in God's hands they were to be brought about. In seeking the right interpretation of these prophecies, he was naturally carried back to those of the Old Testament. Upon these he had previously made copious annotations and reflections; and at last his proposed work, instead of being a defence of the Canon, and an introduction to Scripture criticism, assumed, in the latter part, the appearance of a comprehensive view and digest of the prophecies, embracing a thorough examination of the different schemes that had been propounded, and a classification of all the prophecies which have been fulfilled; together with a statement of the manner in which they have been interpreted, and of his own grounds of preference for the opinion he had himself adopted.

It was charged upon the Jews by Our Saviour that they ought to have known the times and seasons, the source of their knowledge being the language of prophecy; so, doubtless, it is the duty of the Christian, while he abstains from

unhallowed attempts to make known the future, over which God in mercy has placed a veil, to be raised in his own good time,—to let no opportunity pass of watching the times and seasons. Such was the opinion which Mr. Kirby in his writings frequently expressed, and in a spirit in accordance with his words he gave himself to the study of unfulfilled prophecy, and with humility and caution adopted opinions as to the connection of passing events with the prediction of the Word of God.

Possessed of a retentive memory, with a habit of the closest application, his mind soon became stored with profound knowledge of his subject; at the same time he acquired a keen relish for any communication which had reference to the great movements, political and social, which were at this time continually occurring: it was this made him a guest so especially welcome at Nayland.

Mr. Jones, alluding to events that were passing, desires to hear Mr. Kirby converse upon them, "because he was a thinking Christian:" with direct reference to these thoughts, and his study and labour in connection with them, he might have added he was a praying Christian. So deeply was he impressed with the importance of this duty in every undertaking, that he did not, in a work which he considered fraught with danger, satisfy himself with an extemporaneous expression of his wants, but committed his supplication to paper:—

> "A written prayer is a prayer of faith: special, sure, and to be answered."*

Therefore, to know his own mind, he wrote:—

* "Proverbial Philosophy: a Book of Thoughts and Arguments, originally treated by Martin F. Tupper, Esq., M.A., F.R.S., &c. of Christchurch, Oxford." First series, p. 192.

"O Lord Jesus Christ, great light of the soul, I beseech thee of thine infinite mercy to shine inwardly upon me unworthy, that in reading thy Holy Word I may attain unto the true sense and meaning thereof, and by thy Holy Spirit be led to look through the outward shadow to the inward substance. Remove from my heart every prejudice, and prepossession, and false bias; cast down every imagination in me that exalts itself against the truth; give me an unfeigned love thereof, that I may seek to discover only what Thou hast revealed; bestow on me a spirit of patient investigation, that I may not adopt hasty conclusions. Grant that through the gate of humility I may enter in and behold thy glory displayed, as in thy works, so in thy Word. (Especially enable me to see into the meaning of thy Prophetic Scriptures, that I may faithfully declare to thy people the true signs of thy Second Coming. Prosper this work in which I am now engaged, and grant that it may be edifying to thy Church, and cause many therein to watch and prepare themselves to meet Thee; give it such success as will best promote these ends.) Above all things, grant that by the study of thy Holy Word I may be turned effectually from darkness unto light, and from the power of Satan unto God, so that my life may become answerable to my faith, and I may finally inherit thine everlasting kingdom. Amen.

"O God the Father, strengthen me with thy power and might, and give me faith.

"O God the Son, illuminate me with thy wisdom and light, and give me hope.

"O God the Holy Ghost, rectify my will by thy love, and give me charity.

"Hear me, and accept me, O God, in thy well Beloved."

The same petition frequently occurs, with slight variation in order and language. Accompanying one of these prayers the following text is written:—"He discovereth deep things out of darkness, and bringeth out to light the shadow of death."* Beneath, the pen has rudely sketched rays, as of light proceeding from an opaque centre, as if the hand had lent its aid to sustain the contemplation of the mind.

A work undertaken in such a spirit by one possessed of so much patience and research, and endowed with more than ordi-

* Job, ch. xii. v. 22.

nary power of expressing himself in clear and attractive language, could not but have proved of great service to the biblical student. Our regret that it has never been completed would be still greater had it not been that many of the subjects which formed the early part have been so ably handled by the learned Bishop Marsh. Why the work was abandoned it is not easy to say, but it is most probable that it was laid aside as other matters more imperatively demanded attention. It can only now be recorded as a work which cost Mr. Kirby the labour of some years, and which, though it never saw the light, yet brought him much profitable knowledge, and gave him an increasing taste for a subject which, in after years, afforded him the highest and sublimest pleasure, and more than repaid him for the pains which he had bestowed upon it. It is also probable that, finding his opinion upon some prophecies materially altered in the process of comparing things spiritual with spiritual, he waited awhile to test the soundness of other interpretations to which he had committed himself. Be this as it may, though he laid aside the work, he did not throw off his interest in the subject: for many years after, he was in the constant habit of collecting and noting down all important and striking changes which were taking place in the affairs of continental nations: indeed, we should fail to mark an important mode of employing his time, were we to neglect to notice the earnest manner in which he watched whatever he imagined could be a sign or indication of the coming Antichrist, and, connected as it was in his mind with that event, whatever related to the movements of the Jews. These subjects, though not often directly spoken of, yet seemed continually to give a tone and impart an energy to his sermons,—calling on his people in public to watch, and praying for them in private that they might be ready. The following is one of his papers upon this subject:—

"O Lord Jesus Christ, great shepherd of the sheep, illuminate my mind, I humbly beseech thee, with the light of thy truth; give me grace to embrace and love it myself, and to deliver it plainly and powerfully to thy people, over whom thou hast placed me, that they also may embrace and love it, so that, being firmly grounded in the doctrine of thy gospel, they may not depart from thy Church, nor let go the faith once delivered to the saints. But, above all things, grant that in our lives we may both show forth the fruit of that faith in all holy conversation and godliness, so that thereby we may stop the mouths of gainsayers, and finally be made partakers of thy eternal kingdom and glory."

Without following him in his arguments, his views upon the personal coming of Antichrist may be thus stated:—He entirely rejected the opinions of many, that Antichrist is to be seen in the Pope, or in a succession of Popes. To use his own words—

"Though the power of the Pope, usurped under the title of universal bishop over king and prelate, belongs constantly to the spirit of Antichrist, yet the Romish Church has never exhibited the character by which the Apostle says Antichrist will be distinguished, for she has never yet denied the Father or the Son, or that Jesus is the Christ, and she has always confessed that Jesus has come in the flesh; whence it seems to follow that she cannot be the true Antichrist, whose diagnostics are direct Atheism, as well as denial of Christ. Some individual Popes may have been infidels, and so far Antichrist; but the Church of Rome never as a body patronised infidelity, however she may have corrupted, as she certainly did, grievously, the genuine doctrines of the gospel,—introducing idolatry into the Church by the worship of saints and angels, and especially the Virgin Mary, and thus by consequence set herself in array against Christ."

Following the opinion of Irenæus, the disciple of Polycarp, he considered that whatever forerunners there might be of Antichrist, the last and final exhibition of his strength would be amongst the Jews, and probably in the Holy Land. Whether this opinion be sound or not, God in his own time will reveal; it has no farther connection with the

present subject than it serves to throw light upon the history of a considerable portion of Mr. Kirby's life, spent in anxiously watching the signs of the times. Few that have read so much, thought so much, and written so much, would have been contented until they had attempted to win others over to the same views. The fear that he should lead them into matters hard to be understood, and into speculations which would be unprofitable to them, doubtless deterred him from freely communicating all his thoughts upon these deep and mysterious questions. There were, however, some few, though very few, with whom he spoke and corresponded with greater freedom, and once, later in life, he in a more public manner expressed his opinion so far as it has just been stated.

In the early part of the period which we have now under review, Mr. Kirby made an effort to form an association in his immediate neighbourhood for the advancement of the study of Natural History, thinking that the members of it might derive mutual benefit from the communication which they might be enabled to make, each, in the department to which his own taste had led him. Although he himself had adopted that of insects as his own favourite, yet none of the families of the Creation were without their charms,—all had the impress of the same unerring skill and wisdom, each had its structure suited to the post it was destined to fill in the œconomy of animated life. It would have been delightful to him to have had these wonders unfolded before him, and to have been able to examine specimens brought for inspection by the combined industry of collectors. He might have been more immediately led to attempt to supply the want of such an institution, from the difficulty he met with in pursuing the study of Ornithology, to which he had now paid much attention, and had laid such a general groundwork, that, had he possessed greater facilities for obtaining access to a

collection of birds, he would soon have arrived at a very high degree of perfection in the study: as it was, he was familiar with many of the best authors, and had practised himself in making drawings illustrative of the analogy and characteristic marks of the orders and genera of birds. As the gun had no charms for him, and moreover was regarded as incompatible with his profession, he had little opportunity of examining even those by which he was surrounded. To collect in any way a great variety of birds is not only costly in itself, but entails the necessity of large and spacious cabinets in which to place them. He therefore looked forward to the establishment of a scientific institution, with a museum, in the town of Ipswich; and that it might be placed upon the best footing, he addressed the following letter to the President of the Linnean Society:—

"Barham, December 5, 1791.

"Dear Sir,—I received your letter and obliging present, which I shall keep as a precious relic, not only on account of their great original possessor, but also for the sake of the worthy donor, whose name I prophesy will not be forgotten while that of Linnæus is remembered, and the study of the works of an All-wise Creator continues to be a favourite pursuit with enlightened Europe. Pray give my compliments to Mr. Marsham, and tell him I am preparing another box of insects for him. I was much gratified lately upon having an opportunity of calling upon Mr. Woodward, who very obligingly showed me his herbarium and collection of fossils. I mentioned to him a plan upon which we had some conversation when you were at Ipswich—I mean the establishment of a provincial society for the promotion of the natural history of this country: he approved much of the design, and desired to be a member in case such an institution should take place. I have a friend in an adjoining parish, who is a very ingenious naturalist (the Rev. Charles Davy, of Caius Coll.*), with whom

* Translator of Bourrit's "Letters upon the Glaciers," and son of the Rev. C. Davy, of Onehouse, Suffolk, the very learned author of "Letters upon Literature."

I have had some conversation upon the subject; and he tells me that he has had the same idea long in his mind, and that such a society, if it could be established, and the plan be generally adopted throughout the counties, would contribute more to the elucidation of the natural history of this country, than any other plan whatsoever. I should be particularly obliged to Dr. Smith for any hints he could furnish me with; and the outlines of such an institution I should esteem a great favour, if it would not engross too much time. It is the design, if a proper place could be fixed upon, to collect specimens in every department, and to impose it as a law upon every member to contribute a certain proportion every year, which I should hope would keep out of our society all non-effectives. I am much flattered by your obliging invitation: whenever I go to town, one of my principal pleasures will be to wait upon you.

"Your sincere friend,

"WILLIAM KIRBY."

To this letter the following reply was made:—

"London, Feb. 1, 1792.

"Dear Sir,—I am very glad you have seen Mr. Woodward.* I assure you you will always find him a most amiable, generous, and friendly man, as well as a very ingenious naturalist. I am anxious for the establishment of your society; if I can help it in any way, pray command me. As to all the use of my herbarium, &c., in difficult points, it is yours of course. I find it difficult in such establishments to get people to work, and am confident an obligation for each member to give a paper or other communication in turn would be a good scheme; I would fain have had it so in the Linnean Society.

* Thomas Jenkinson Woodward, Esq., was a native of Huntingdon, where his family had been long established. He was born in 1745, and educated at Eton, and Clare Hall, Cambridge. About the year 1770, he settled at Bungay, in Suffolk, and afterwards removed to Diss, in Norfolk, where he died, in 1820, at the age of 75. With talents which would have done him honour and credit in whatever he took in hand, the department of science to which his taste more peculiarly inclined him was the study of English Botany. He was one of the original members of the Linnean Society, and contributed several learned and ingenious papers to its Transactions.

I would recommend an herbarium and cabinet of *native* Suffolk specimens to be made by the society. Much depends on the president or secretary you have; they must be working men, zealous, and scientific. No *grandees*. The true dignity of a literary society is science . . . .—I am,

"Your very faithful and obliged friend and servant,

"J. E. SMITH."

The small number residing in the neighbourhood who really cared for natural history, prevented, however, Mr. Kirby's favourite pursuit from being carried into effect; but, as we shall have occasion to observe in a future page, he never lost his interest in the project.

In the year 1794, Mr. Kirby received from the Governors of the Corporation of the Hundred of Bosmere and Claydon the appointment of chaplain to their house of industry situated in the parish of Barham.*

This, under the poor law of that day, formed an asylum for paupers from all the parishes in the hundred, the number of inmates being from 300 to 400.

It is painful to behold disappointment, and sorrow and suffering, when there is no power of giving relief,—not so when the means of affording comfort and consolation are not wanting. It was with this feeling, that Mr. Kirby, with no small amount of pleasure and gratification, discharged the duties of his new office, for which, from the affectionate earnestness of his character, he was peculiarly adapted. Few possessed the happy art of speaking a word in season to persons of all ages, and in cases of every description, in greater perfection than he did; and it was ever his most anxious desire to be made the happy instrument of "binding up the broken-hearted,—of comforting all that mourn,—of giving them beauty for ashes, and the garment of praise for the spirit of heaviness."

* This office he resigned in the year 1813.

The death of the rector of Barham, in 1796, gave rise to apprehensions on the part of his friends, lest Mr. Kirby would be removed from a cure in which he had now resided fourteen years. It was natural for him to attach himself to places and to people, so that he could not have received notice to remove without great sorrow and regret. After a short time, it was announced that Mr. Bacon had bequeathed the next presentation to his curate: a subject of rejoicing this, from its substantial advantage; and gratifying at the same time, as well from the fact of the bequest being made without solicitation, as from its being a token of Mr. Bacon's friendship, and a testimonial to Mr. Kirby's worth.

The pleasure of it, however, was not a little damped by a subsequent announcement that Mr. Bacon's will was invalid, and that legal difficulties threatened to set it aside: this was a time indeed of suspense, but not by any means of fretful agitation. Happily, at length the legal doubts were cleared, and Mr. Kirby entered with gratitude upon his new preferment. The addition which was thus made to his income proved of great service to him in carrying out his studies and pursuits in a manner which could not before have been attempted; it gave also greater opportunities for intercourse with his friends, and for hospitably receiving them at his house, which from this time he did with an unbounded generosity.

The year 1799 was marked by a visit from Mrs. Trimmer, —an important visit we may call it, and that not because there was any thing remarkable in the fact of her visiting her cousin, who was well able to enter into all her thoughts and plans, but important from the effect which his intercourse with her, and with a gentleman staying with him at the same time, produced upon his mind: his own pen, in a letter to Mr. Rodwell, describes those feelings better than I can possibly do:—

"Barham, Sept. 9, 1799.

"We have spent our time since Mrs. Trimmer has been with us, very pleasantly. Alas! when I compare the little good that I do, the faint exertion that I make, with what Mrs. Trimmer and her family and this gentleman, perpetually active in the cause of religion and the practice of virtue, are enabled to perform, I am ready to hide my blushes in the dust. I hope and trust the time is not far distant when, through the grace of God and the incitement of their excellent examples, I shall rouse myself from my lethargy, and no more dread a 'lion in the street.' In the meantime I am thankful to God for giving me this blessed opportunity, and beg you will mention me in your prayers. May we both, having the great end of our being in view, strive to enter in at the strait gate, not seeking the honour that cometh from man, but that which cometh from God only!"

Of the extent to which Mr. Kirby's time was occupied when he penned this letter, we can only, after the lapse of more than half a century, hope to get information from indirect sources; but these are ample. Had the fruits of his studies never been made known, there is yet enough in this chapter for us to draw a safe conclusion as to whether he could be classed with those who waste their time in unprofitable amusement or listless indifference. The expression of sorrow was called forth by a tenderness of conscience, which led the possessor too hastily to institute a comparison where room for one did not really exist. The indolent alone are apt, with very small exertion, to consider themselves the valuable and overworked members of society; those of quick and active minds, or those of painstaking and laborious habits, have ever been found amongst the foremost to lament that the swift passing years glide by one after another before they can accomplish even a small portion of that which a spirit too liberal for its opportunities has suggested to them as their legitimate work.

Mr. Kirby, to pass over all his writings which his diffidence had kept in the background, had been actively

engaged in correspondence on matters of religion, as well as on science, in which correspondence he never once lost sight of the glory of God seen in His works as in His Word. He was occupied in naming and describing collections of insects forwarded by his friends; he prepared scientific papers, the labour bestowed upon which must not be judged of by their length; for a moment's reflection will tell us that there was required great scope of reading, and much careful investigation, before he could have been enabled to form conclusions which have stood the test of time and subsequent inquiry. He was active in his parish, diligent in his chaplaincy, thoughtful about the poor, anxious in the instruction of his household, careful and laborious in the preparation of his sermons, watching as one that would have to give an account; he was attentive in his visitation of the sick, and he was moderate and rational in his amusements and recreations. When the wants of his neighbourhood or the wishes of his friends called upon him to fill any office, he accepted it with cheerfulness, and discharged its duties with untiring vigour. Evidence of these we have in his devotion to the interest of the charity for the Widows and Orphans of the Clergy, and subsequently in his efforts on behalf of the Society for Educating the Poor, and for establishing Schools. But notwithstanding these, and a considerable list of other kindred duties, Mr. Kirby was not satisfied with himself; he did not feel that he was so actively employed as the liberal and bountiful goodness of God demanded that he should be, for, together with his lamentation, we must note the language of praise with which he closed the letter from which it is taken:—

"The harvest here has been wonderfully fine, and is getting very forward. How happy is this country, this land of unwalled villages,

to use the Prophet's expression, where we gather in our fruits in peace without the dread of an enemy; while the neighbouring countries have been laid waste by the desolating sword. Ah! when will the goodness of God make wars to cease in all the earth? when will He speak the word, that the arms of the ungodly may be broken, and peace once more visit the earth? He no doubt from evil will bring forth good, and the final result of all will be for the benefit of His Church. Farewell, my good friend! when the Lord cometh may we be found vigilant."

CHAPTER XI.

The Monographia Apum Angliæ published. — Description of the Work.—Reception which it met with.—Letters from Fabricius, Afzelius, &c.—Recent Classification of the Genera and Species of Bees.—Correspondence, &c.

In our intercourse with the world, we often meet with those who lament their failings, or mourn the useless life which they are passing,—who make good resolutions for the future, and determine to seek opportunities of amending their course; but unfortunately they are too apt to rest here; while their good resolutions vanish away under the influence of long established habit, as dew before the morning sun. This is the case with those who have sinfully wasted the hours given for useful employment; but such was not the case with Mr. Kirby. Indeed, although he had failed to produce a work to which his thoughts could recur with gratification, yet he had not, as we have seen, wilfully wasted or neglected opportunities. His expressions of regret, and of resolution yet to do something to promote the glory of God, were accompanied, as has been said, with prayer, that the Giver of all good things would strengthen his resolution, and direct his steps into such a path as would conduct him to the great end he had in view, which was, to be enabled to set forth His praise. His prayer was answered, and a course opened to his view, in which the peculiar gifts and talents with which he was endowed, could be employed in accordance with his ardent wishes.

The motive with which Mr. Kirby applied himself to the preparation of a fresh work, after he had abandoned that which has been noticed in a former chapter, is thus clearly stated

by himself, in a letter to Mr. Rodwell, dated December 21st, 1800:—

"I am at this time very busy in getting a Natural History work ready for the press. In this work my aim is to unite two sisters, that through the fault of the admirers of one of them, have long been separated, and the consequence has been much mischief: I mean, Religion and Natural History. The author of Scripture is also the author of Nature: and this visible world, by types indeed, and by symbols, declares the same truths as the Bible does by words. To make the naturalist a religious man,—to turn his attention to the glory of God, that he may declare his works, and in the study of his creatures see the loving-kindness of the Lord,—may this in some measure be the fruit of my work: and may essential Power, Wisdom, and Love, the Creator, Redeemer, and Sanctifier, so far prosper it, that it may tend to produce these effects. I know that I run the risk of sneers from infidel and irreligious and worldly-minded naturalists; but that I regard not."

The conception, then, of this work was not the result of some happy chance, but proceeded directly from a mind resolved to devote its energies to a subject in which opportunity was afforded for awakening attention to the attributes of God. In the course of a long and tedious process of enquiry, involving the most intimate anatomy of parts of insects scarcely perceptible to the naked eye, Mr. Kirby never lost sight of the great end which he had in view when first he started. Long accustomed to the closest investigation, and the concentration of his intellectual faculties upon the subject before him, his spirit seemed ever free to soar above it.

While he saw with the outward eye the beauty of the work,—with the inner man he contemplated the invisible glory of the Maker. At each onward step his mind took yet more vigorous flight, and rose above the field of creation, to catch, as it were, in the objects thus brought beneath his eye, reflected glimpses of the Creator's glory.

The works of Mr. Kirby, bedewed as they are with the

spirit of praise, have earned for him the title of Christian Philosopher,—the noblest among the many which belonged to his illustrious predecessor, Linnæus, in whose footsteps he loved to walk. Nor is his claim to this title to be made out only from the manner in which he executed his task; we may go farther, and ground it upon the motive which induced him to undertake it. He comes before us as a writer upon Religion, confining his attention to Natural History, viewed as having an essential relation to the attributes of God; and not merely as a teacher of the science, recognising, as he passed, the connection which it had with religion.

The title which the work was destined to bear, was "Monographia Apum Angliæ," or a Monograph of the Bees of England. The reason for adopting this title is given in the Preface, from which we gather that it was to guard the author against the charge of having committed the error himself, and of setting the example to others, of being unnecessarily minute and tedious in his description of insects. He remarks,* that one who treats of an entire department in Natural History should select principally those features which distinguish the objects he describes from their congeners; whereas, the very name of a Monograph seems to imply attention to every circumstance which distinguishes the object. The relation which exists between a Monograph and an entire department of Natural History is compared to that which exists between History and Biography; for in the latter "minute traits of character, and familiar anecdotes, which are beneath the dignity of the historic muse, are accounted a great beauty, and enter into its essence, at the same time that they constitute its most agreeable ornament."

* Monographia Ap. Ang.: Preface, p. xiii.

It is difficult at first to perceive the religious bearing of this work, which, when examined as to its contents, is found to be almost entirely composed of scientific criticism and technical descriptions: we are, however, enlightened upon the subject, and put in possession of Mr. Kirby's train of thought, by a few passages in the prefatory remarks.

Speaking of his endeavours to arrange the various species of the Wild Bees of England into *natural* families, Mr. Kirby says:—

"And here, to trace the footsteps, and elucidate the system of nature, and nature's God, has invariably been the author's aim; to discover the wonderful works, and adore the wisdom of his Creator, his highest pleasure; and to point out His meaning, and see things where He has placed them, his single desire. Unattached to hypothesis, he has made haste to give up errors as soon as he has detected them, and he has taken every step within his power to arrive at the truth."*

Again he says, in the Introduction to the Monograph:—

"The Great Parent of the universe, when he furnished this terrestrial globe with its inhabitants, caused the earth and waters, as the sacred historian informs us, to produce every thing 'according to its kind:' an expression which, if taken in its largest sense, may be understood to signify the distribution of all created species, not only into *Families* and *Genera*, but also into *Orders*, *Classes*, and *Kingdoms;* and so into a harmonious system, every member of which, although it has a separate place and office assigned it, is connected, by certain common marks and characters, with those which precede or follow it. And the book of nature in this, as in all other respects, speaks the same language with the book of revelation; we see everywhere the traces of a natural system, and both reason and observation unite in declaring that such a system, with its regular divisions and subdivisions, does exist. Now, if the glory of the Creator be, as it assuredly ought to be, the great end of the labours of the naturalist, then the most effectual way to promote this great end is to aim at the eluci-

* Monographia Ap. Ang.: Preface, p. vii.

dation of the genuine *systema et œconomia naturæ*,—that we may see natural objects, as much as possible, in the places which the Divine Wisdom has assigned to them; and learn every day, more and more of the natural juxtaposition of *Species, Families, Genera, Orders, Classes;* and of their individual and collective economy, &c. &c. It is true, in our present degenerate state, fallen from original knowledge as well as virtue, having lost that genuine *Clavis Naturæ* which it is probable our primogenitor Adam possessed;* by the use of which, in the creature he could discern the intention of his Creator: in this world and its productions, seen in their various affinities and economies, read his deity and attributes, his wisdom, and will, and things spiritual: so that to him the page of creation was a revelation by natural symbols and types, as the Jewish religion was by instituted, and the Christian by words, the arbitrary signs of ideas; and in consequence of this knowledge, was enabled to impose upon the creatures, names adapted to their several natures. I say, in our present degenerate state, we cannot attain to this wisdom of the protoplast, for now 'we know only in part.' Yet by combining our own observations upon nature with those of others, who before us have laboured in the same field, we shall gradually approach more and more towards it, till, perhaps, it be the Divine will, we attain to the full day of the glory of our Creator, as manifested in his creatures. If that glorious day of true and genuine science should ever come, we shall then behold each natural object in its proper place; we shall learn its history, economy, and uses, its moral and spiritual signification, and find God's works and God's word, 'though each in different sort and manner,' uniting to declare the same truths, and, with one voice, impelling us forward to the attainment of the true end of our being, the knowledge and enjoyment of Him, who is essential Power, Wisdom, and Love, through that Blessed Person, who having first created us, afterwards assumed our nature, and died for us, in that world of realities of which this is only the type and the shadow. May that day ever more and more approach! to hasten its dawn is the peculiar office and duty of the naturalist, who is the *Hierophant* in the great temple of nature; and this can only be effected by opening our eyes to the light which nature herself affords to those who seek for truth: by recording, not

* Quod ad Historiam Naturalem attinet, duæ ejus partes, Zoologia et Botanica, testantibus hoc plerisque theologis et philosophis, primi generis nostri parentis fuere studia. "Fundament. Entomolog." quarto, p. 4.

our own private hypotheses, but our discoveries; by improving, instead of destroying, what others have done; by retaining whatever is already discovered of the natural system, and endeavouring to add to it; remembering always that we are not the heralds of our own fame, but of the glory of our GOD. So that we may ever be willing to exclaim in the words of the divine Psalmist, —'The works of JEHOVAH are great, sought out of all them that have pleasure therein. His work only is excellent, and his praise above the earth and heaven.'"*

To attempt to give anything beyond a slight sketch of this admirable work, would be quite incompatible with my present purpose: I should lament this the more, but for the conviction that there is not a naturalist in Europe of any reputation, who is not ready to acknowledge the debt of gratitude which Entomology owes to this Monograph, whose author, having passed keen criticism on the works of those who have gone before him, now, by his consummate skill and accurate arrangement, offered to future naturalists an almost faultless pattern to guide them in their studies.

To give extracts, or to make even an epitome, of the introduction, which is chiefly devoted to criticism, would be to weaken the effect which is produced by the whole to such a degree as to misrepresent the work; I shall, therefore, only briefly state the topics which are embraced and enlarged upon.

In the first place enquiry is raised as to the justice of the attack that has been made upon Linnæus by Fabricius† and his followers, who had complained that he had attempted to make an arrangement of insects according to the natural

* Monographia Ap. Ang.: Introduc. p. 1—4.

† Johann Christiana Fabricius was born in 1742, at Tundern, in the Duchy of Sleswick, and was made Professor of Natural History and Rural Economy, at Kiel, at the age of twenty-three. In 1775, he published his "Systema Entomologiæ," in which he pro-

system.* In the course of this investigation there occur lively expressions of regret that Fabricius should, by adopting this course, have neutralized the effects of his acknowledged talents and unwearied perseverance: one remark is applicable not only to this case, but conveys an excellent moral, worthy of the attention of all who seek a change without having a sufficient ground to justify the attempt:—

"The rage of the present unhappy era is not for the amendment or improvement of what has been done before, but in these days a man thinks himself no philosopher unless he can altogether obliterate, and for ever do away, the collected wisdom of the ages that are past, in order, in its stead, to erect a novel system of his own: this is the case in religion, morals, politics, and philosophy; and in all these this Καινομανια has produced the most mischievous effects. But it ought to be recollected, that if the flimsy and destructive web of a spider be the work of a single insect, and spun in an hour, yet that to form and replenish the admirable structure sheltered by the hive, it requires, and for the best portion of the year, the united labours of myriads of industrious bees. Just emblems of the patient efforts of genuine science!

"Had Fabricius, instead of overturning, employed himself in giving those improvements to the system of Linnæus of which it is capable, and which indeed it demands, the entomological world would have been his debtor; and under so skilful a hand, the science, instead of being thrown back, would have made considerable advances."†

The services of Fabricius are not, however, lost sight of

posed a new arrangement of the insect-tribe, the novelty of which consisted in choosing for his divisions the modifications observable in the parts of the mouth. Fabricius was of an amiable disposition, well versed in botany and mineralogy; and although entomology was his favourite study, not unacquainted with the other branches of zoology. He died in his 65th year, much regretted by all naturalists.

* Nimis naturam sequens, sæpiùs amisit systema." Philos. Ent. c. vii. s. 2.

† Monographia Ap. Ang. Vol. i. p. 7.

in this condemnation of his attempt to introduce novelties at the risk of destroying that which had been already safely and surely established; they are recognised in the following paragraph:—

"It is with pleasure I acknowledge that his [Fabricius] *Philosophia Entomologica* is a work of standard merit, which deserves to be thoroughly studied by every entomologist, and if he had written nothing else, this alone would have entitled him to be ranked amongst the first philosophers of the age in which he lives..... and in general, if, in some respects, he has done great injury to the science, in others he has certainly contributed much to its advancement."*

The progress that entomologists had made with the order *Hymenoptera*, is then traced through all its intermediate advances.. Before, however, Mr. Kirby narrates the influence that he conceives individual naturalists to have had in advancing towards a natural arrangement of this particular order, he pays the following tribute to some of the earlier labourers in the field of Natural History generally:—

"If I mistake not, our own country had the honour of paving the way for the system of Linnæus. A brilliant constellation of geniuses arose towards the close of the seventeenth century, who diffused new light over every department of natural history, and were the harbingers of that bright day, which the labours of the great Swedish naturalist have caused to dawn upon the three kingdoms of nature. In this constellation, the stars of the first magnitude and brightest lustre were John Ray, that glory of England, Dr. Martin Lister, and Francis Willoughby, Esq. These great men, by their separate and joint labours, prepared the materials for the present improved state of Natural History."†

The progress made by Ray and Lister in the particular order of *Hymenoptera* having been traced, an account of the

* Monographia Ap. Ang. Vol. i. p. 9.
† Ibid. Vol. i. p. 10.

labours of Linnæus upon the same subject is given; to this succeeds a description of the advancement made by his followers. Here, first in order stands the name of Professor Scopoli, "dear to every lover of natural history, and to whom entomology is under very considerable obligations."*

The next whose services are weighed is Geoffroy, "a writer of considerable merit, but too much given to innovation."†

Then follow those of Baron de Geer, who, "like his illustrious predecessor Reaumur, penetrated into the deepest recesses of nature in the pursuit of truth, and brought forth to light and notice innumerable anecdotes and facts, before unknown, relative to the history and economy of the minute, but wonderful animals, which belong to the entomological department."‡

The works of these authors having been closely examined, and enquiry made as to the advantages and disadvantages, either from the parts selected for characteristics, or from the changes made in the order of the genera, a lengthened discourse ensues on the terms adopted by Fabricius, as well as on the purposes for which he employs them.

The number of genera usually recognised in this class is then considered, when it is shown that, for facility of study, farther division might advantageously be made, inasmuch as the vast influx of nondescript species entailed the necessity of going over the definitions of several hundreds, before one could be determined; whereas the use of generic characters, by limiting the extent of the comparison, would naturally abridge the labours of the enquirer. And here

* Monographia Ap. Ang. Vol. i. p. 17.
† Ibid. Vol. i. p. 18.
‡ Ibid. Vol. i. p. 20.

a middle course is recommended between Linnæus and Fabricius: the former having confessedly too few genera, and the latter having multiplied them beyond necessity, and mistaken the characteristics of families for the indications of genera.

After this suggestion, some very important improvements are proposed as to the characters which were employed in distinguishing the genera of this order. Here it is shown, that although the order itself was sufficiently defined and natural, the species had not yet been distributed into natural genera; which is in fact the chief business of the Entomologist. To show to others what might be done for the order, is now stated to be the object of the work: and the genus *Apis* is selected for the purpose of dividing its numerous species into genera and families. The same course is now adopted in examining what has been done for this *genus*, as that which had been followed in considering the *order* to which it belonged.

Before the time of Linnæus little had been done towards constructing generic characters. Ray and Reaumur are, however, to be excepted. Of the former it is remarked, that "he had attempted it in this class with as much success as could be expected; and that to this genus he had paid particular attention, and had described several species with great accuracy."*

Of the success of Reaumur much more is said. He is spoken of as "that illustrious French naturalist, to whom this genus is under greater obligations than to any Entomologist who either went before, or succeeded him. To him nature lifted up the veil that covers her awful face, and was delighted to initiate him into her most secret mysteries. Though not strictly a systematist, he has enriched his great

* Monographia Ap. Ang. Vol. i. p. 49.

work with innumerable facts and observations, which may be made of the greatest use to the systematical naturalist. He did not usually construct generic characters, but in separating his *Proabeille* from *Apis*, he laid a foundation for the division of this genus into two natural genera.*"

The several families into which this genus is divided,—that is, according to their mode of nidification,—is then given; the notice of which concludes with the following remarks:—

"Thus we see this great author, without any hypothesis in view, but solely by following nature, has furnished us with a clue for the construction of five natural sub-divisions in the genus *Apis*. This was doing a great deal, before a genuine generic character had been formed."†

The changes which had been made in various ways by Linnæus, Scopoli, Geoffroy, and De Geer, having been reviewed in order, the system proposed by Fabricius is brought under notice,—the alterations which he had proposed in this genus being tested by it. Innumerable mistakes are pointed out, precisely where the system, had it been a sound one, would have directed to the truth. The introductory remarks are concluded with the following passage:—

"A system so constructed, which is the cause of so much confusion and distortion of nature, can never be lasting; the more closely it is examined, the more deficient will it be found, and probably it will not long survive its author. While that of Linnæus, which Fabricius and his followers have treated with such undeserved contempt, receiving daily those improvements of which it is capable, and which it demands, will descend, because founded on the sure basis of truth and nature, to the latest posterity, and, in conjunction with his other glorious labours, immortalize his name to all generations."‡

* Monographia Ap. Ang., Vol. i. p. 49.
† Ibid. Vol. i. p. 51.
‡ Ibid. Vol. i. p. 77.

This is an opinion upon which the best comment that can be given is to be derived from the universal consent which has been yielded to it,—a result brought about in a great measure by the publication of the "Monographia Apum."

We have hitherto been considering the introductory pages, which, indeed, occupy the greater part of the first volume. The work itself begins with a synoptical table, in which there is a complete enumeration of all the external parts of the insects which are treated of. Several parts unnoticed by Linnæus and other writers in Entomology are introduced into this table: an explanation, in Latin, of terms used, follows, together with additional observations in English.

The way being thus prepared, the second part is devoted to pointing out those characters which distinguish the genus: this is followed by some reasons for dividing into two genera those insects which by Linnæus were considered as genuine *Apes;* their essential, artificial, and natural characteristics being subjoined.

De Geer had already separated some insects from *Apis,* under the name of *Nomada,* but this name Mr. Kirby rejected, as it had been employed by Fabricius and others for a widely different family of *Apes.* And the name he chose for the new genus was *μέλιττα,* the Attic dialect for *μέλισσα.*

This point of the generic character of *Apis* and *Melitta* being settled, those distinctions are traced which divide them: and here Mr. Kirby says,—"In this part of my undertaking my aim has not been so much to fix upon artificial characters, which often disunite those insects which nature has put together, but to discover whether the All-wise Author of nature, who is a God of order, has not subdivided these genera, and impressed certain common

characters upon such subdivisions, by which one who studies his works under no influence but the love of truth, and led by the single desire of finding out His system, might be enabled to arrange them according to their natural affinities."*

After a synopsis of the peculiar characters of each family, given in technical language, observations in English are made upon their habits, principally upon the manner in which they make their nests: these accounts, taken in a great measure from Ray and Reaumur, are extremely interesting, and are well calculated to awaken the reflections suggested in the following words, which occur after the mention of the *Apis centuncularis*:—

"Can we consider this curious history without adoring that DIVINE WISDOM which teaches these diminutive creatures to provide in so wonderful a manner for the security and sustenance of their young? Who is it that instructs them to bore a fistular passage either under ground, or in the trunk of a tree, for the reception of their nests? What rule do they take with them to the shrub from which they borrow their materials to assist them in meting out their work, by which they cut some pieces into portions of an ellipse, others into ovals, others into accurate circles,—and to suit the dimensions of the several pieces of each figure so exactly to each other? Where is the architect who can carry impressed upon the tablet of his memory the entire idea of the edifice he means to erect, and without rule, square, plumb-line, or compass, can cut out all his materials in their exact dimensions, without making a single mistake, or a single false stroke? And yet this is what these little animals invariably do; and thus teach us how much more wonderful and certain instinct is, than all the efforts of our boasted reason; which, after many painful processes, interrupted by numerous errors and failures, and by a long train of deductions, cannot arrive at that expertness and certainty which these creatures manifest spontaneously, working at all times with unerring precision. What is this instinct but the teaching of the ALMIGHTY, the manifestations of his ETERNAL WISDOM, infinitely diversified, sustaining, directing, impelling all things, and making all

* Monographia Ap. Ang. Vol. i. p. 124.

things work together for the good of the whole? which, like its great emblem and instrument, the light, acts everywhere, and upon all, and while it guides the planets in their courses, directs the minutest animalcule to do those things which are necessary to its preservation, and the continuance of its kind. 'Oh, the depth of the riches both of the wisdom and knowledge of God! How unsearchable are his judgments, and his ways past finding out! Of Him, and through Him, and to Him, are all things. To whom be glory for ever. Amen.' "*

It is not improbable that many who read these pages will anticipate with some degree of relish the description of their favourite bee. Indeed, many have been surprised at learning that Mr. Kirby had given no particular directions as to their management; nor as to the best form of their hives, together with many other matters connected with them. That he did not insert any such information was not from want of observation, for it was one of his favourite amusements to watch his garden bees. Of their habits much had been already written, and brought in a popular form within the reach of every one: his desire was now to throw light upon those parts of his subject which had been less generally noticed: this we have in his own words—

"A bulky volume would scarce suffice for a complete account of the history, economy, mode of culture, &c., of the hive bee; I shall not, therefore, at this time enter upon it; but content myself with referring my reader to the elaborate treatises of Swammerdam, Reaumur, Huber, Wildman, the entertaining dialogues of the 'Spectacle de la Nature,' &c. where he will see what a wonderful display of the Divine Wisdom these little creatures exhibit; and in how extraordinary a manner, by their various instincts and operations, ὡς δι εσοπτρου εν αινιγματι,† if he can solve it, they reflect the glory of God."‡

* Monographia Ap. Ang. Vol. i. p. 170.

† 1 Cor. xiii. 12.

‡ Monographia Ap. Ang. Vol. i. p. 198.

Whilst we pass over the general description of the family, we must not omit to notice one important point, in which former errors of description are corrected. Linnæus, in his Systema Naturæ, under *Apis mellifica*, says, "Femina—antennis articulis decem: Mares—antennis undecimarticulatis: Operariæ — antennis quindecimarticulatis." "In every one of these assertions," Mr. Kirby says, "with due deference to a name so deservedly great be it spoken, Linnæus is mistaken, for the antennæ of the female and neuter consist of the same number of articulations exactly, viz., thirteen, including the radicle: those of the male have fourteen joints; although the fourth and fifth, counting from the head, under any but a very powerful magnifier appear to be but one. Many other authors have fallen into a similar mistake on this head."*

The second volume of the Monograph is occupied with the descriptions of the several species, with occasional observations on any remarkable features attached to their habits. Many of these species had never been described before; these involved the necessity of finding trivial names for them: several of them were selected from distinctive characters of the individual, but many also were derived from the names of writers upon Entomology, or from those who were collectors of insects. In announcing the name selected, an appropriate dedication is given in almost every case; but as these are chiefly interesting to Entomologists, or to the immediate friends of Mr. Kirby, I shall here omit them.

* Monographia Ap. Ang. Vol. i. p. 197:—
Swammerdam gives males and females eleven, working bees five.
Reaumur gives the neuters only twelve, including the radicle.
Geoffroy gives the female and neuters fifteen, and the males only eleven.
Scopoli gives the female only ten articulations of the antennæ.

It is only those who have undertaken anything similar, that can at all form even an approximate idea of the amount of industry and labour which a task of this kind called for: it would have been a laborious work even with a cabinet before one, and access to a well-stocked library: what then must it have been in a country parsonage, where there was small opportunity of intercourse with kindred spirits for counsel and discussion, and at that time only a scanty library upon this department of literature! The only source immediately at hand for Mr. Kirby to work upon, was that which a well-stored memory supplied, aided by extracts made from books which had been borrowed from time to time. For a general subject, in such hands, these might have proved sufficient; but in this particular instance they did not at all accord with Mr. Kirby's ideas of accuracy: he therefore carried his collection of insects to London, and also to Norwich, that he might compare them on the spot with the descriptions given by those authors to whom he referred. He especially notices with gratitude the advantage which he derived from his oftentimes repeated visits to the magnificent collection of Sir Joseph Banks, "so liberally thrown open to naturalists;" as well as the assistance he derived from the Linnean Cabinet. This absence from home was necessarily attended with inconvenience and expense; but he does not by any means appear to have considered it as the most laborious part of his work. His descriptions would have been nothing without drawings; and in those days, when the sale of a work on science was more limited than it is even at the present time, and drawing and engraving far more expensive, to attain the assistance of regular artists was out of the question. These difficulties would have deterred many from the undertaking; Mr. Kirby, however, determined, by perseverance and industry,

to supply what was needed, though but little assisted in this by natural talent. That much time was absorbed by his early attempts, is very clear from several letters written at that period: nor is it matter of surprise that difficulty should have been felt in etching for the first time, in a department where clearness and accuracy were above everything necessary. Mr. Kirby had, it is true, been in the habit of committing to paper the appearance of objects which he wished to retain in his memory, but this was a different thing from making drawings to convey his meaning to others, and that, not upon objects viewed as they naturally appeared, but under the influence of powerful magnifiers. I may here remark that there are in the first volume 14 plates, containing no less than 404 drawings descriptive of parts of the insects referred to. The execution of these drawings is singularly characteristic, the outline hard and distinct, without an attempt at shadowing, or softening of any kind. Although this may be regarded as a defect by many, yet we may safely say that for clearness and perspicuity, they would be patterns for some of our modern draughtsmen. That Mr. Kirby should have experienced difficulty in the use of the pencil, is, however, far more remarkable than that he should have had the perseverance to overcome it. I have already observed that his forefathers had a decided taste for the fine arts, nor did that taste cease with their generation; Mr. Kirby's sisters possessed more than ordinary talent for drawing and painting. Miss Lucy Kirby, who married George Dominicus, Esq., of the East India House, by several works preserved by her family, proved herself to be no mean artist, as well in portrait as in landscape painting. The imitative talent of this lady exhibited itself in a still more extraordinary manner in the singular faculty of cutting out designs upon

paper with scissors: in this art she was probably without a rival: not that instances of this power were uncommon, but they are rarely met with in the same degree. The mode of operating which is most generally employed, is that of folding the paper, and so cutting out, with great accuracy, symmetrical figures, often of considerable beauty. With this lady, however, the case was different: a plain sheet of paper was taken in the hand; over this the scissors wandered at will marvellously, working in perfect harmony and unison with every conception of the mind; the performance of the hand clearly indicating that the most accurate order and exquisite taste were actively engaged; vases of flowers grouped in the most charming order, such as no pencil could excel: the flowers, the leaves, the stamina, the pistil, the very minutest serratures in the Pink and Rose, marked with such precision that a magnifying glass improved rather than diminished the effect. Queen Charlotte, notwithstanding all the beauties of art which passed before her eyes, on accidentally becoming acquainted with these paper cuttings, was pleased to request that one should be undertaken for her; a request which it is needless to say was speedily complied with. It is worthy of remark, that this talent, although it has escaped some branches of Mrs. Dominicus's family, has yet been strongly developed in others, and is even now appearing in her great grandchildren.

To return to the Monograph. The last, but not the least interesting fact connected with its progress, is the source from which Mr. Kirby obtained his specimens of insects. Some few he became acquainted with from seeing them in the cabinets of Drury, Lathbury, Haworth, Banks, and others, but by far the greater number he found in his own parish. The total number of *Melittæ* described is 111: of these, 83 were taken in Barham, and 2 in the adjoining parish. Of the genus *Apis*, 112 are described: of these,

71 were found in Barham, and 7 in the adjoining parish;—thus making a total of 153 distinct species of wild bees found in a parish containing 1573 acres of land.

How forcibly does this bear out the advice of one of the greatest travellers of his age, to those students in whose minds he was striving to awaken a thirst for knowledge! In recommending travelling as one of the most fruitful sources of rational enjoyment, he gives this caution:—"I cannot think that those act prudently, or enough consult the good of themselves and country, who seek for that abroad which may be had at home, and who travel to foreign Universities before they have laid a sufficient foundation in their own country.....He who goes abroad raw and ignorant, seldom returns more learned. Whoever, before he sets out to visit regions warmed by other suns, has laid the first foundations of his studies in his native country, will be most likely to bring back materials of far greater price than we usually see amongst the greatest part of our travellers.

"How many, ignorant of their own country, run eagerly into foreign regions to search out and admire whatever curiosities are to be found, many of which are far inferior to those which offer themselves to our eyes at home."*

In the year 1802, Mr. Kirby's first complete work was brought before the public. To suppose that he was indifferent to its success would be unnatural: he had, indeed, many misgivings as to the reception his book would meet with. The contempt of the scoffer he did not fear, but the commendation of the right-thinking portion of the scientific world he anxiously looked forward to as the guerdon of his

* "An Oration concerning the Necessity of Travelling in our own Country, made by Dr. Linnæus at Upsal, Oct. 17, anno 1741." "Amæn. Academ. Vol. ii." Translated by Benjamin Stillingfleet, "Miscellaneous Tracts," 1775: London.

toil. Nor was he disappointed of his hope; for while the former shrank from appearing to confute his manly and open profession, he received on every side expressions of gratitude and approval from the most eminent men of the day. It is worthy of remark, that precisely at the period when his work was published, Latreille was engaged upon a treatise upon the same insects, which appeared in one of the supplementary memoirs appended to the "Histoire Naturelle des Fourmis," published at Paris in the same year as that in which the "Monographia Apum Angliæ" made its appearance in England. That these two authors worked independently of each other is sufficiently evident from some remarks of Latreille, in his "Histoire Naturelle des Crustaces," and of Mr. Kirby, in a paper subsequently published.* The recognition of each other's merits by these two "heroes scientiæ," at a time when England and France were engaged in deadly strife, is one of the most graceful testimonies to the tranquillizing power of the study of Nature which can well be conceived.†

Mr. Kirby's book, small though it was compared with the bulky volumes upon which the fame of the author is often built, was not thus limited in its effects: they were considerable, both as to the progress of the science, and also as to the future prospects of the writer.

Congratulations on the manner in which he had accomplished his projected scheme, and thanks most hearty from the lovers of Entomology, were showered upon him from every quarter. The President of the Linnean Society thus addresses him:—

"Norwich, Aug. 12, 1802.

"My Dear Sir,—I have deferred writing to you till now, in hopes that I should have been able to do it in my own hand, but as

* Linnean Transactions, Vol. ix. p. 2.

† Proceedings of the Entomological Society, 1850.

the remains of the erysipelas still continue so much that I am unable to write or read many words at a time, I am obliged to employ an amanuensis. I cannot, however, delay any longer to thank you for your kind present of your work on Bees, but more particularly for the honourable mention you have made of me in it. I am most gratified by the rank you were so good as to allow me among your friends. Of the value of your work I need say nothing, because you know the expectations I have formed of it; and from what has been read to me, and from what I have been able to pick up from my own repeated though short opportunities, I find my expectations much exceeded. The detail of descriptions and characters I am not now in a state to enter into, but I long to study them. What you say concerning the sacred and eternal foundations of our science, comes with peculiar propriety and authority from you as a divine, and I am happy to say that on all its essential points I feel as you do: I trust the general sense of mankind is with us..... Have we no chance of seeing you this autumn? it would give me great pleasure, and you should have a table to yourself in my library.

"Believe me, dear Sir,

"Your faithful and obliged friend,

"J. E. SMITH."

Sir Thomas Cullum, in a letter too long for insertion here, says:—

"October 5, 1802.

"I was in town the early part of last May, and I believe I had the first copy of your *Monographia Apum*, from White, of any one in London; and I had a very early copy of Mr. Marsham's *Entomologia Britannica;* I can form no idea how he must have laboured in *stercore equino, bovino,* &c. &c.; your labours have been amongst sweets and flowers, and I should suppose you had some power of fascinating all the Queen Bees, by which means you attracted all her attendants, or you never could have collected so many."

The following extract from a letter of Mr. Mac Leay's must close the list of congratulations which Mr. Kirby received; if all were given, they would occupy a long chapter:—

"June 8, 1802.

"I congratulate you most heartily upon the reception which your

work has met with from the public. I am told that it sells briskly, and I hear every one speak highly in praise of it. Indeed, it must be so; for I will venture to say that it is the most valuable critical work on Entomology that ever was published. I cannot express to you how much it pleases me, and I am sure it will immortalise your name."

These words were verified as soon as they were penned, for the knowledge of Kirby as a naturalist was now no longer confined to his friends, or to the members of the Linnean Society; his name, enrolled in the scroll of European fame, was rapidly spreading far and wide: his Linnean papers had attracted attention from several foreigners who were devoted to science; and no sooner was the "Monographia Apum Angliæ" published than it was in the hands of all the leading entomologists on the Continent.

Among the first to express his opinion was Walckenaer,* who, in a letter dated October 1802, remarks, after expressing his admiration of the book:—"Je crois fermement qu'il ne peut y avoir de véritable progrès en entomologie que par l'étude approfondie des organes de la bouche, et votre excellent ouvrage sur les abeilles m'a encore plus convaincu de cette verité." No one probably read the work with more avidity than Fabricius himself: to his credit and honour it must be said, he read it in a generous spirit; and was satisfied that his opponent's remarks were suggested simply by a desire to set forth that which was

* This eminent man studied under Miller, Professor of Law in Glasgow, in the years 1790 and 1791, being at that time 20 years of age. Before his death, in 1852, he was one of the few living entomologists who knew Fabricius, and thus connected the chain with Linnæus. It is, however, chiefly as a geographer that he has distinguished himself,—his superb collection of travels and maps form in themselves a valuable library.

sound and true, and reject every thing that could possibly lead to error. Fabricius appears to have considered himself to have been misunderstood in several points: perhaps it was, that he did not at once perceive the consequences which must follow upon the adoption of his system. His letter addressed to Mr. Kirby, though written in a language to the use of which he was unaccustomed, very forcibly conveys his feelings. It is dated March 28, 1803.

"You have declared war against me: I must take up the gauntlet, and fight out the battle as good as possible. You may be sure, had I not found real merit in your work, I would not have written these lines. You attack me generally, you attack me specially, and of both ways I say a few words. The general attack I deny entirely, and I am sure, by cooler observation, you will find, and confess yourself, that your attack is entirely erroneous, and without foundation. Are you not a naturalist?—and these I always found good-natured folk, and honest. You object that I maliciously detract from the merits of Linnè. Impossible: there is not in Europe a man who more knows and reveres the first naturalist than I do. I have lived two whole years in his greatest intimacy, and that in the years of early youth, of fancy, and enthusiasm. I have loved him as a father, instructor, friend, and in riper years I have admired his happy flight. Of his style I have imitated; but, on the other side, I never flattered him,—never called black white, because he, perhaps by mistake, had called it so. By his real merit, he did not want it. He saw our reverence in our eyes, in the ardour to be with him, in the publique testimony we gave yearly that we only resided at Upsala for his sake. We did not see nor hear any body but him and his family. He loved, likewise, the company of his young friends, as he called us, and every day, in town or on his estate, he came to our room with his pipe, and stayed three or four hours in liberal discourse, but always upon topicks of natural history. He always took our observations, in publique and private, with true benevolence, refuted or reproved them, and laughed heartily when we could find ingenious arguments to puzzle him, and now and then he was forced to sit out the dispute till next day. Some dissertations in the Amæn. Acad. shew his love, and our reverence. These years are the pleasure and the glory of my life. I afterwards corresponded with him, 'til death separated our friendship....."

This letter is of great length, examining in detail all the remarks made upon his system in the introduction to the "Monographia Apum." Fabricius's endeavour was to prove that farther enquiry would show that there was not so wide a difference as Mr. Kirby imagined between them, however much his followers and friends might have improperly used his writings. He thus concludes the letter:—

"In the special attack I will not defend me much. Many many faults are in my system. I was not able to examine all. The Coleoptera were my favourites, and I neglected now and then the other classes. On my travels, and in the cabinets, I began with the first, and I had not always the time to finish the rest. You have taken up a genus very difficult in itself. Next year I hope to publish the Systema Piezatorum, and hope you will find it, not perfect, but much bettered.

"After giving you my defence, I wish, without the least animosity, to shake hands and be friends. Do we not go the same way? and let us not quarrel in the road. I wanted only to wipe my character of ingratitude. In a week I intend to set out for Paris. If you will favour me with some lines, pray address them there to Mons. Latreille, Rue Condé, No. 4. If, as I hope and wish, peace continues, I want very much to return to Hamburgh over England, and would be happy to make your personal acquaintance. My stay will be short, and I shall be glad if you would come to London in that time. My best compliments to all the members of the Linnean Society: long I have wished to write a small paper in their Transactions, but I dare not trust my English, and I have no friend now to mend it. England,—the collections of Messrs. Banks, Drury, Hunter, &c. &c.,—were the cradle of my system, and now the English blame the author. Health and happiness attend you!

"I am, constantly yours,

"J. Fabricius."

Illiger's Magazine (Vol. V. p. 28), published in the year 1806, gives a lengthened review of the work. An apology is made to the reader for not having taken earlier notice (except in a passing manner) of so important a book. A condensed sketch is then given of the work, some conti-

nental species being added to those in the Monograph. The writer of this article remarks, "I have not followed the author word for word in his Latin technical terms, as he has in fact originated a new language, in which the notions are most admirably expressed, but are sometimes words already made use of for other ideas in Terminology."

Mr. Kirby's visits to London for the purpose of comparing his insects with descriptions to be met with in books to which access was afforded him, were the means of forming an acquaintance with naturalists who would not otherwise have crossed his path: to these his friend Marsham, from his official connection with the Linnean Society, afforded him an easy introduction.

Amongst those whom Mr. Kirby numbered amongst his personal friends was the celebrated Afzelius,* who visited England about the close of the last century. In a correspondence which subsequently commenced between them, but which was interrupted by the war, direct allusion is made more than once to the "Monographia Apum." Amongst others is the following letter:—

"Upsala, 20th September, 1802.

"My Dear Sir,—I embrace an opportunity of returning you many thanks for your kindness to me when in England, and of introducing to your acquaintance an intimate friend of mine, Major Gyllenhal, who is, without exception, the best entomologist we have in Sweden,—an indefatigable collector, an acute observer, and besides a most liberal-minded man in communicating his discoveries to others. He is now desirous of the correspondence of some English gentleman, for the purpose of exchanging insects, and getting a true nomenclature; and if you will favour him with your friendship, I have no doubt you will reap both benefit and pleasure of it yourself. In

* Dr. Adam Afzelius, an amiable and excellent Swedish botanist, was for many years resident at the Colony of Sierra Leone, in the service of the African Company. He was in England at the close of the last century, and afterwards settled at Upsal.

return to what he now sends you, he may have a box of insects from you early in the next spring. He reads English, but does not write it; therefore I hope you will allow him to use the Latin or French language. I sincerely lament the hard fate of my friend Dr. Smith, and I heartily wish that the loss of his eye may not be the cause of putting a stop to the continuation, and prevent the finishing of his 'English Botany' and 'Flora Britannica,'—two works which I should like much to see completed. I understand that you have lately published a Monography of the Bees, which I long to peruse,—so much the more as it is a very intricate genus, and as I know that you have spended much time and labour in setting all the species and sexes aright. Wishing you health and happiness,

"I remain, yours sincerely,

"AD. AFZELIUS."

"Upsala, 8th July, 1803.

"My Dear Sir,—A fortnight ago I received from our friend Mr. Marsham your "Monographia Apum Angliæ," which he says he had an order to send as a present from you. For this mark of attention, and for the honour you have done me by calling an insect by my name, as well as by mentioning me in several places in a manner that cannot fail to be very flattering to me, I return you my sincerest and warmest thanks, wishing that I may be able some time or other to shew you my acknowledgment more effectually. The work I have but hastily gone-through, waiting for more leisure to study it as it deserves. But thus much I can say, that I am highly pleased with the plan you have followed, the pains you have taken, the discoveries you have made, and the manner in which you have treated Mr. Fabricius his tottering system and disorderly arrangement. And it is my hearty wish that your time and health would allow you to undertake another genus, and work it out upon the same admirable plan. Last year I took the liberty of introducing to your acquaintance my worthy friend Major Gyllenhal. He is the best entomologist we have in Sweden; and, on the hint I have given him, he wishes to come in correspondence with you.... If I can be of any service to you in this country, you have only to command, and it will give me the greatest pleasure to be able to perform your wishes.

"If your good lady remembers a foreigner who never forgets the hospitable reception he enjoyed in Barham, in the autumn of 1798,

I beg you will give her my best compliments; and as to yourself, be assured, that wishing you health and happiness,

"I remain, dear sir,

"Unalterably your obliged friend and servant,

"AD. AFZELIUS."

The following letter was yet more gratifying as regarded the progress of the Monograph:—

"Upsala, August 12th, 1805.

"My Dear Sir,—As soon as I received your 'Monographia Apum,' two years ago, I returned you my sincerest thanks for it, and gave it at the same time my full approbation. I then spoke only my own opinion, but now I can tell you the public sentiment, which is everywhere on the Continent in your favour, even amongst the greatest friends of Fabricius. *A plus forte raison*, it is very well received with us; and I have seen it reviewed in more than one place with all the *éloge* such a valuable publication truly deserves. The letter you had the goodness to write to me in the year 1803, and which came in the box accompanied with the insects to Major Gyllenhal, I did not receive before the middle of the last year, and now I thank you very kindly for it. What I have said above may partly serve as an answer to it; and I am very glad to hear that Fabricius himself is so open to conviction, that he acknowledges his faults.

"Herewith I enclose for you some Dissertations, which I beg you will accept; and if you should like to have any more of the same kind, I will do myself the pleasure of sending them, as soon as they are published. Those you may not choose to retain, you may give to any of your acquaintances. But what I feel anxious about is to hear your sentiments upon my *Achetæ Guineenses*, which I beg you will let me know as soon as possible.

"I am, dear sir,

"Wishing you all happiness, your very obliged,

"AD. AFZELIUS."

Even had the Monograph proved defective in some of its parts, the encomiums bestowed upon its author would not necessarily have been misapplied; for the work was taken

in hand under great disadvantages, and, as more than one eminent entomologist observed, Mr. Kirby had selected a most difficult genus to work upon. It will not, perhaps, be uninteresting to shew briefly how far the experience of fifty years tends to confirm, or otherwise, the opinion expressed on the first publication of this Monograph. Fortunately we are able to speak of this not only from general impressions, but from the testimony of one who has studied with great diligence, for many years, our native bees,—for a great part of the time with the Monograph in his hand, and the identical bees from which Mr. Kirby's descriptions were taken, daily before him. Mr. Frederick Smith, of the British Museum, after fifteen years of observation in the study and in the field, published the result of his investigations in the "Zoologist."* He there drew up a Table, exhibiting the number of genera and species which had been added from discoveries since the publication of Mr. Kirby's work, and also the number of species which had been described by Mr. Kirby as distinct, but which upon farther enquiry were proved to be different sexes of the same. It was a singular coincidence that when this paper was published, in 1847, the new species discovered, and those which were struck out, exactly corresponded; this charm has, however, since been broken, as by Mr. Smith's Catalogue, published by the Trustees of the British Museum in 1851, there were 223 species; and since the publication of this catalogue one species of the genus *Ammobates*, I have been informed by him, has been discovered as British.

The Table referred to shews that only two genera, *Macropis* and *Anthocopa*, have been added to the list; and in these only one representative in each has been discovered.

* Zoologist, Vol. v. p. 1661.

With respect to Mr. Kirby's enumeration of species, a considerable alteration, especially in the genera *Andrena*, *Nomada*, and *Bombus*, has taken place. Mr. Kirby had himself expressed his fear that in two of his subdivisions of genuine *Apes* (Nomada and Bombus), he had not been so successful in uniting the sexes as in other families; and it is precisely in these that the greatest amount of change has taken place. Mr. Smith, after quoting the passage referred to, says,—"greatly, indeed, are we indebted to that illustrious author for the state of comparative perfection to which he reduced the genus.....He has left little for succeeding observers to do, excepting as far as their observations may enable them to give to some individuals their legitimate partners, to describe the species not then discovered, and to correct such errors as were committed solely from the want of such information as time and subsequent discoveries now enable us to rectify."*

Mr. Kirby, it must be borne in mind, described some of his bees from individual specimens which were sent him by his friends, or from single bees taken at a distance from their homes; whereas Mr. Smith's observations have been made by taking them out of their nests in a mass, and not unfrequently by breeding them. It was only by such means that the sexes could be properly united.

There were some bees named in Mr. Kirby's cabinet as new species, with reference to a MS. Some of these, Mr. Smith, without having seen the MS. itself, has described. Mr. Kirby's descriptions were on blank pages of his own interleaved copy of the Monograph. There are also a few places in which observations are made respecting the union of some bees to their partners, instead of leaving them as species.

* Zoologist, Vol. ii. p. 541.

The descriptions of the bees themselves are so clear and faultless, that Mr. Smith found little difficulty in determining which of Mr. Kirby's species they were which he had discovered to be inmates of the same dwelling: the work itself, even in this part, supplying the materials by which, in the hands of a careful and accurate commentator, this branch of the science has been advanced to its present state of perfection.

The following letters are from a gentleman who sought Mr. Kirby's acquaintance from the wide-spread fame which now attached to him, not only as a naturalist but as a liberal-minded man, willing to share with others the treasures he had gathered together, either from the works of others, or that mighty work which is open for all,—the Book of Nature.

"London, 29th Jan. 1808.

"Reverend and Dear Sir,—It is a long time since I ought to have written to you, and my not having done it has been owing to continual occupation, and not to forgetfulness: for I never shall forget the kindness with which you received me at Barham. But I am also indebted to you for the valuable present of your work on the Apes Angliæ, which I never shall look into without a most grateful recollection of, and respect for, the author. Every lover of Entomology is greatly indebted for your labours in this genus. The 'Monographia Apum Angliæ' is everywhere on the continent esteemed an *opus aureum*; and Fabricius, when I met him at Copenhagen and in Paris, expressed himself strongly in its praise, and told me he would go far to see Mr. Kirby. I was much gratified by this acknowledgment. Our worthy friend Mr. Marsham's 'Coleoptera' accompanied it: so that the old proverb was verified which tells us 'that one blessing seldom comes alone.'

"I am almost ashamed to offer you the enclosed papers, containing an account of a species of Tenthredo which is very injurious to some of the best fruit-trees in New England. I had no books to consult but Linnè's 'Syst. Nat.' and Reaumur. It was the intention of the Agricultural Society to spread the knowledge of this insect among the farmers; it is therefore written in a plain style, and thrown into

the form of a letter. I wish it may be possible for you to gratify me, at some future day, by examining the larva of the English *Tenthredo Cerasi*, and writing me what you think of the pair of limbs mentioned in p. 10, – if, indeed, it exists in the European species. If it does not, it will form a distinguishing character of the American species. A most excellent part of the distinction of species in this genus is the aculeus. I have never found it alike in any two species. . . . . I shall esteem your correspondence an honour and an indulgence, and will endeavour faithfully to discharge the duty it will lay on me, if your leisure should permit you to favour me with it.

"Permit me to assure you I shall cherish a grateful recollection of you, and be always, with great respect,

"Rev. and Dear Sir,

"Your truly obliged servant,

"W. D. PECK."*

A great part of the foregoing letter I have been obliged to omit, as interesting only to those who are well skilled in the subject of Entomology. Mr. Kirby's answer was speedily sent, the contents of which can only be imagined: that it was much to the purpose appears from the acknowledgment it received.

"London, 19th April, 1805.

"Rev. and Dear Sir,—I have but a single moment to thank you for your most welcome and instructive letter, to enclose you two small insects which remained in a box I brought from America, and to present you my adieux. I shall rejoice to cultivate your correspondence as soon as I shall have time after my arrival in America.

"May health, the greatest of sublunary blessings, long dwell with you.—I am, with sincere respect and esteem,

"Your much obliged servant,

"W. D. PECK."

* W. D. Peck, Professor of Natural History at Cambridge, Massachusetts, is said to have been a very amiable and talented man, and one who, like many of his countrymen, filled with enthusiasm for England, came to it with the feelings of those who from this island visit the classic shores of Greece and Rome. He was in London in 1808, and kindly and hospitably received by the chief naturalists of the day.

The publication of the "Monographia Apum," and the circumstances arising out of it, although forming undoubtedly the most important feature of this period of Mr. Kirby's life, did not absorb the whole of his thought and attention; so neither do they present themselves as the only matters worthy of notice in taking a retrospective view of the manner in which his capacious mind employed itself. The letters addressed to him by various friends will enable us to form some notion upon this point; but the consideration of these I must leave for another chapter.

CHAPTER XII.

Military preparations.—Correspondence with Mrs. Trimmer.—Dr. Bell and Mr. Lancaster.—Mrs. Trimmer's Death.

THE panic which was spread over the whole kingdom in the early part of the present century, by the threatened invasion, was felt perhaps more keenly in Suffolk than in any other district. The whole county was in a state of agitation; volunteer troops were raised, and all kinds of steps taken, for resistance by the strong, and for carrying off to a place of safety the weak and helpless. To the little regiment of his neighbourhood, Mr. Kirby proved an efficient help, performing with great diligence the office of Secretary.

We find every man in the parish, from the highest to the lowest, had his weapon allotted to him, and his post assigned; the cattle and waggons all numbered, inventories made of the stock, and watchwords and signals provided in various directions. Mr. Kirby himself had his duty appointed in the hour of danger, which was to fetch, and collect together the waggons, and provide for the safety of the women and children. These, and all other arrangements, were noted by his own pen, and passed under his own immediate eye.

Doubtless many others were as strenuous and active in the cause, but few perhaps were so deeply engaged at the same time in pursuits of such a widely different nature.

One of the remarkable features in Mr. Kirby's character was the facility which he had acquired of turning his mind from one subject to another: this was perhaps part of the secret which he appeared to possess of gaining the admiration and respect of every one who approached him. He could enter into the deep lucubrations of the most grave and serious, and in the next moment could be pleased with innocent mirth and humour; he could write on Entomology in one letter, and in the next could enter as warmly into politics, or discourse upon deep and solemn matters. At this period we find many soliciting instruction and advice in the pursuit of their studies in Natural History; others corresponding with him on the subject of Prophecy, and some again on Biblical Criticism: many of the letters received required thought and attention before they could be answered. We must add to this the fact, that many hours were employed in the examination of insects, sent by various friends, requesting that they might be scientifically named and described.

Amongst his correspondents at this time, Mrs. Trimmer occupies a prominent position, not only from the number of letters which passed, but also from the influence which they had in keeping Mr. Kirby's mind actively engaged upon topics of general interest: these, from her position in society, Mrs. Trimmer was well qualified to write upon. Many of her letters had reference chiefly to the controversy between Dr. Bell and Mr. Lancaster, and to the progress made by the various publications in which this excellent lady was engaged; these I have omitted, since, to make them intelligible or interesting, it would require that the whole question as to the state of education, and the works written upon it, should be examined. It is sufficient that the reader should be informed that Mr. Kirby took a most lively interest in the whole matter, and occasionally wrote

his opinions very fully and freely on various points connected with it. I shall now give extracts from Mrs. Trimmer's correspondence, that the reader may form some judgment of the topics which were interesting to Mr. Kirby. After a visit to Barham, Mrs. Trimmer writes :—

. . . . . "Though we were returning to those we so dearly love, it was impossible to leave your hospitable roof without painful regret, and a thousand fruitless wishes that we could enjoy a continuance of that society which had afforded us such heartfelt pleasure. Nothing but a sense of our duty towards Him, who fixes the bounds of our habitation according to his own good pleasure, could silence these regrets. I hope we shall, however, have a frequent intercourse by letter: for we must have you one way or another with us."

1799.—. . . . . "I have had Mr. Daubeny's 'Letters to Sir Richard Hill' to occupy me: I conclude you will get them; they are admirable, and so, I think, is the 'Letter to Mrs. H. More.' I perceived the erroneous doctrine he points out when I gave her 'Strictures on Education' a hasty perusal. It is very grievous to see such able pens employed, without intention, to undermine the interests of the Established Church. I am more and more a high churchwoman, and my veneration continually increases for the good old Divinity of former days."

1800.—. . . . . "It is really dreadful to look forward to the prospect before us; yet I humbly trust a good Providence will protect us. God grant that his awful judgments which are now in the world may have their due effect! Have you read the Bishop of Rochester's Charge? It gave me particular pleasure to find that he had been misrepresented, in respect to his enmity to Sunday Schools. We have lately read a book which has amused us greatly: it is a novel, entitled 'The Modern Philosopher,' supposed to be the production of the pen of the Author of 'The Spiritual Quixote.' It is extremely well written, and places the doctrines of the new philosophy, as contrasted with Christianity, in their effects upon moral conduct, in a very striking light: yet I was not quite satisfied with the author's Christianity,—it appears to me to be too much of the kind which the professors of it call *rational;* but I may be mistaken: the work is well worth reading. We have now under perusal Mr. Richards's 'Bampton Lectures:' the subject of them is Prophecy. As far as we have gone, the sermons please us much."

"April 20th, 1800.—I am sorry to see the appearance of frost again this morning: what extraordinary weather we have lately had! indeed, every thing is extraordinary in these times, I think. I am sure your good heart felt for our King, and the Royal Family, during His Majesty's alarming illness: I hope and trust he is now in a fair way of perfect recovery, for he was able to ride down on horseback to Kew last Monday, and I am told that he was walking in his garden at six o'clock yesterday morning. I went to the palace on Tuesday, to make inquiries, but did not see any of the Royalties; however, I hope to do so soon, when my book is ready to present to the Queen, to whom it is dedicated. I waited upon Her Majesty about three weeks before the King's illness, and had a most gracious reception from her, and the Princesses, Augusta and Elizabeth. I understand the family are expected to remain at Kew until the King goes to Weymouth; so I may probably have repeated opportunities of paying my respects, which I shall be happy to do, from that loyalty and affection which every subject ought to feel for a King who has shown himself so zealous for the purest religion upon earth, and to whose firmness, under God, the nation is indebted for its internal peace. Had the King been taken from us, what a dreadful situation should we have been in at this time, in all probability! You have seen, by the reports of the Committee, that a dreadful conspiracy was formed. I am told that the scheme was, to murder all the ministers, and to have an insurrection all over the kingdom (or 'dominions,' as they are called since the Irish Union) on a certain day. How providential was the discovery, and the prevention of its execution! I do not know that I was ever more surprised, or so much grieved, at any public event, as at the desertion of the late ministry at such a critical period; indeed, I cannot account for some of them leaving the good King in such a situation. Had he died, how much would they have had to answer for! As it was, I fancy some of them were made very miserable. The extraordinary event of the death of the Emperor Paul, and the glorious victory over the Danes, have made a happy change in public affairs, and we have fresh cause to rejoice in the good Providence of God. But there is much to be done and suffered, I fear, before a general peace is established in the world."

"Sept. 30, 1803.—What to say to public affairs, my dear cousin, I know not. Mr. —— says that the plan of defence in case of actual invasion is a most admirable one. But it is on the particular providence of God our hope must be placed in this very extraordinary contest. The spirit which prevails throughout the nation for vigorous

defence, I trust is inspired by the Lord of Hosts. It is very different from the terror which has prevailed in almost every other nation of the arms of Buonaparte. I hope with you, in this instance, the head of the serpent will be crushed."

About this time a task peculiarly pleasing to one of such benevolence of heart as Mr. Kirby devolved upon him; it was to plead, and that successfully, the wants and necessities of clergymen and their families, who struggled, but in vain, to keep their position in society, and to present an outward appearance, not for the admiration of the world, but simply for their admission into the various ranks of society, which the duties of their sacred calling required. Mrs. Trimmer was a banker for the charitable donations of the benevolent; and in the discharge of her stewardship she found an able coadjutor in Mr. Kirby. Several letters which passed, referred to these cases: to give the names of the contributors would be to draw them forward to a position from which they themselves shrank; but to call attention to their deeds, is not only causing their light to shine still before men, but it also shews, in what marvellous and unseen ways, great and rich rewards unexpectedly come upon those who unselfishly toil for the good of others.

While each succeeding generation applauds the labours of Mrs. Trimmer, the greatest personal reward she received is to be traced to the friendship of the kindred spirits that gathered round her; and in the many acts of benevolence and unostentatious kindness which she was able to indulge in: letter after letter appears in this strain:—

"I will not forget the Curate of ——, whom I shall very probably be able to serve this winter. I am glad the account you have of —— agreed with the recommendatory letter: £20 has been given me for him, which I hope he will receive in a day or two. What a happiness it is to have the power to do so much good as Mr. H—— does, accompanied with the inclination. Did you not mention the

Rev. —— as a person to whom £20 would be acceptable? I have that sum, but cannot tell who recommended him: if it was you, I will remit the money to you."

The following extract is from a letter of later date, referring to the same subject:—

"I received a letter from —— while I was writing to Mr. H——: you will be glad to hear that excellent man is recovered. I will bear in mind the gentleman you mentioned for a future occasion, but I know that my good friend has, during his illness, emptied his charity purse, ample as were its contents."

I now resume the general correspondence in chronological order. Jan. 3, 1807, Mrs. Trimmer says:—

"I shall not go to London while the weather is so cold, nor, perhaps, till my work is ready: in this I have made some progress. As I proceed, I keep in mind your remarks upon my interpretation of Apocalyptic scenery, for which I am much obliged to you, as I also am for the very striking extract in your last letter, from the 'Belgian Traveller.' It recalled to my mind what my venerable friend Mr. De Luc told me some time ago, 'that just at the crisis to which your extract relates, he knew for a certainty (being at that time in Germany) that the Jews there had packed up ready to go to Buonaparte in Egypt.' This is a strong corroborative evidence in favour of the 'Belgian Traveller;' indeed, the newspaper mentioned lately that Buonaparte had sent a missionary to China, and others to different parts of the world..... You have mentioned, also, the terms required from the Porte by Russia, and the promises and threats by Sebastiani on the part of France. I wish you may be right in your hopes, that this country has already drank its portion of revolutionary evil: it probably has done so, yet I fear heavy judgments are impending over us: God alone knows: but of this we are sure, He will preserve his Church, and martyrdom is the certain road to glory. You make us all very happy by saying you are happy amongst us. I wish our meetings could be more frequent: but there is a near prospect of eternity, in which I hope we shall know each other, and have full enjoyment of social intercourse."

"July 31st, 1807.—..... I have just been reading a curious book,—a translation from the French of the Transactions of the

Jewish Assembly and French Dissenters at Paris. It confirms my opinion, that the French, Italian, and German Jews in the dominions of Buonaparte are no other than modern philosophers,—very little short of Atheists. Attending to the declarations and professions of the Rabbinical deputies, who are the creatures of Buonaparte, they have relinquished all desire to be restored to the Land of Promise, and all expectation of a Messiah. The ultimatum of their hopes is to be incorporated with the other nations of the earth, but more particularly with France, as fellow subjects, and enjoy the same privileges..... I had a very great pleasure on Monday last: the Queen had sent a letter on Saturday, desiring me to meet her on Monday, at Frogmore, at 12 o'clock, but the letter did not reach me till the appointed hour was nearly expired: however, I went immediately, and was most graciously received by Her Majesty and all the Princesses. The affair which the Queen wished to consult me about did not relate to me or to my family.... I did not see the King, but had the satisfaction to hear he was perfectly well....."

"Sept. 22, 1808.— ..... I had a very interesting visitor last week, —a Mr. Frey, a converted Jew: I did not know the whole of his history till he related it himself. He was a native of Germany. His thoughts were first turned to Christianity by a fellow traveller in a stage coach; but it was gradually brought about, and thirteen years ago he was publickly baptized in Germany; after which he was recommended to the Missionary Society, who intended to send him out to Africa, but they thought afterwards he might have success with his Israelitish brethren here, and he has been preaching in a chapel in London, and was attended by many Jews, until the Rabbins, taking alarm, interdicted them from following him. Some few, however, go to him secretly; and he has a crowded congregation of Christians, whom he tries to excite to endeavour to ameliorate the condition of the Jews. The case appears to me to be almost hopeless, for he says that in thirteen years he has known of but twenty-five Jews who have embraced Christianity; that there are 12,000 in London, and not more than 2000 besides in this kingdom; that they are in a most deplorable state of depravity and ignorance, and continually advancing in profligacy, totally indifferent in respect to religion; that the best of them seldom know more of the Old Testament than the Pentateuch, the historical books, and the Psalms of David. The Messiah they have given up expecting, and of the Prophecies they know nothing. I wish you could have been of our party at Brentford."

"Nov. 9, 1808.—I have lately had a very great enjoyment, of which little James was a partaker. I took him with me to Windsor. As soon as the royal family knew I was coming thither, they sent to our friend Mr. Plumley, to desire him to tell me the Queen wished me to attend her on Thursday at two, and the Princesses at twelve, and to take the child with me. We accordingly obeyed the royal invitation on Thursday last, and each of the Princesses admitted us to her apartment in succession, and behaved with the kindest condescension. The child was greatly caressed, and highly gratified with all the new objects which a royal residence afforded to him. Unfortunately for us, the Duke of Clarence arrived just at two o'clock, and it was four before he left, to visit one of his sisters. The Queen then desired us to attend her, and with Her Majesty we found our gracious Sovereign, who spoke to us, in a manner I shall never forget, of his afflicting malady, with so much pious resignation, as shewed the goodness of his heart in the strongest light. He took very kind notice of the little boy, though he said he could only tell how tall he was, without discerning his features. Two mornings I attended at the Private Chapel in the Castle, where the King goes constantly to prayers every morning, and delightful it was to witness the fervency of his devotion, and to hear him make the responses. You would have enjoyed it, particularly on Saturday, the 5th of November, when the service was in many parts so applicable to the present times, especially when the King made the response to the sentence,—'O Lord, save the King:' I humbly hope his trust will not be in vain! ....."

"August 27, 1810.—.....I had the pleasure of seeing Dr. Wilmot several times: he always spoke of you, and expressed great regret that you were not within his reach. Miss C—— makes quite a sorrow of being at such a distance from you. She has, I conclude, given you a full description of the jumping egg, or chrysalis,—unfortunately, it took its last leap the day before we arrived; but the phenomenon is so well authenticated, that we cannot doubt the fact. It is hoped that you will be able to account for it....."

The following paragraph from a letter dated December 5, 1810, was the last conveyed by Mrs. Trimmer's pen to Mr. Kirby:—

"I wish to know what you think of the controversy concerning the Bible Society. I suppose you have seen Dr. Wordsworth's and

Dr. Dealtry's letters. For my part, the subject is quite distressing to me."

This letter is indorsed, in Mr. Kirby's hand-writing—"The last Mrs. Trimmer wrote to me. She departed this life December 15th, 1810."

In giving the foregoing extracts, I have made the selection as far as possible with the view of showing what subjects were supposed to be interesting to Mr. Kirby: there are allusions to the useful life he was leading, and to the laborious manner in which he devoted himself to study; at the same time evidence is given from them, that his mind was not absorbed by one favourite pursuit, but that he took a comprehensive view of the passing events of one of the most memorable periods in our political history as a nation, although living in the retirement and seclusion of the country. We see here facilities afforded for making approach to those in station and power, with promise of a successful issue to application for patronage of his literary taste: but patronage, as the result of friendship alone, it never entered into his head to seek.

CHAPTER XIII.

Description of Barham Parsonage.—Correspondence.—Mr. MacLeay, Fabricius, and Latreille propose to visit Barham.—Letters from Latreille, Gyllenhal, Dalton, &c.

THE "Monographia Apum" once fairly launched into the world, a convenient opportunity presented itself for attention to personal convenience and comfort. In no department of the domestic economy of Barham Parsonage was this more loudly called for, than in the arrangement of the house itself. Like many other buildings of the same date and style, that which was designated as the keeping room, or parlour, was the passage to the house. It had a brick floor, was destitute of a mantel-piece, and the door, opening at once into the open air, formed the main entrance. Comfortless enough it must be allowed,—yet these and similar inconveniences, Mr. Kirby, had he consulted his own inclinations alone, would have borne with. The ravages of the *Ptinus pertinax* rendered some repairs absolutely necessary*; and this circumstance, added to the foregoing disadvantages, determined him to remodel the house, and by various alterations to bring it to a form which has not since undergone any material change. The effect which this disturbance had upon one whose daily movements were regulated with the utmost order and precision, cannot be told in a more characteristic manner than that in which he himself describes it to his friend Sutton.

* See page 241.

"I believe we shall put off our friends another week, that we may get our staircase and best passage finished: at present, we have only sand to walk upon when we go to bed. My greenhouse will be covered in to-morrow; but we have suffered much from paucity of hands—there is so much employment this year, that they are not to be had for love or money. When we shall turn them out of the house I cannot foresee: it will be to me a day of jubilee, and I hope I shall never know any thing more of building or repairs. I hope, however, my patience,—a quality, I fear, I am not too rich in,—will be improved; and I ought to be thankful to Divine Providence for trials which assist me in overcoming a sin that doth easily beset me. When delays begin to make me fume and fret, I think of this, and grow contented and happy. I have been so fortunate as to get a valuable collection of greenhouse plants given me. Lord Beverley, not being able to procure a temporary station for his, has given them to the neighbouring gentry,—amongst the rest, by the help of Lathbury, I came in for a good portion."

In the following letters I have endeavoured to select such parts as are calculated to throw light upon the nature and extent of Mr. Kirby's friendships: such parts as refer to collections of insects forwarded, or received, are omitted; as well as many observations which would be uninteresting to my readers, unless some account of the circumstances were given which called for them.

Mr. Mac Leay to Mr. Kirby.

"Transport Office, 5th November, 1802.

"My Dear Friend,—I return you my best thanks for your letter, which I would have answered from Caithness, if I had met with any thing worth communicating; but I could only tell you of my being prevented from looking after insects by continued rains, snow, and high winds, during the whole of my stay in that country. Indeed, so bad a season was never known; and a more serious consequence than my entomological disappointment is, that the crop of oats in Caithness has almost entirely failed. Notwithstanding the unfavourable state of the weather, however, I was much gratified by my visit to the North. I had reason to believe that very considerable

improvements had been made in my native county during the sixteen years I had been absent; but I assure you I found the country improved far beyond my most sanguine expectations. What has been done within the last few years is truly astonishing. Sir John Sinclair has this year ploughed up about 600 acres of waste land, which was in fact before good for nothing. In order that I might see as much as possible of the north of Scotland, I visited the Orkney Islands, and the northern coast of Sutherland, as far as Cape Wrath. That district which is known by the name of Strathnaver is surely the wildest on the face of the earth. There is no road through it, but you are obliged to make the best of your way either through immense peat-bogs, which are broken up in many places, and threaten to swallow up horse and rider, or over the sides of craggy mountains, in which the granite points up in sharp angles, one above the other, in so rugged a manner, that it is surprising how a horse attempts to pass. In many places I thought it prudent to dismount, and more than once I came to the ground *involuntarily*. It would, however, take many pages to give you an adequate idea of this barbarous country.

"Through the whole of my travels I lost no opportunity of collecting insects. Indeed, I collected almost every one that I saw. I have in the whole about 250 or 300 specimens, but they are not yet arrived here; but I know not whether there be any thing new. There are very few Hymenoptera. If there be any duplicates worth your having, they are yours. The British Critic, very unaccountably, is still silent on the subject of Monographia Apum Angliæ; but the Antijacobin has, in my opinion, reviewed it very handsomely.

"I like your idea respecting a Fauna Britannica very much. It, however, requires much consideration..... With great regard,

"I am, yours most faithfully,

"ALEX. MAC LEAY."*

* Alexander Mac Leay, Esq., distinguished not more for his zeal in entomology than for his mild and amiable disposition. He was for some time Secretary to the Linnean Society. His engagements allowed him but little time for writing, but he did much in encouraging and assisting others, as well as by affording the advantage of consulting his well-stored cabinet. In 1825 he proceeded to New Holland as Colonial Secretary. At his departure, many friends sympathised in the feelings of Mr. Kirby, which were well expressed in the words

"London, December 23, 1802.

"My dear Friend,—I received your letter of the 25th of last month, and the parcel by coach, safe. The books for Mr. Walckenaer I have forwarded by a private hand, as well as your letter for M. Latreille. ..... Bingley has sold his book well. I have seen it, and think it a useful work for general readers; but it has to boast, in my opinion, of no originality except the title,—which is curious indeed. Did the author suppose that 'Animal Biography' would distinguish his book from one of the Biography of the human species; and does not the word Biography itself signify that it treats of Animals, or at least of animated nature? Man, in Mr. Bingley's idea, must be either a vegetable or mineral. But pardon me if I am going beyond my last. I am no critic.

"Your proposed paper on nondescript foreign *Apes* will be very acceptable to the Society. In what manner is Duméril's memoir published? I should like to procure it.....

"Yours most faithfully,

"ALEX. MAC LEAY."

"London, Nov. 14th, 1802.

"My Dear Friend,—It has been observed, 'that there is some manner of people on whom it is impossible to work any good;' you will, I fear, consider me one of these incorrigible fellows, as neither kind letters nor presents seem to have any effect on me.....

"I do not believe that I have seen our friend Marsham four times since the beginning of the war. This is my fault in some degree, but not entirely, for he is wholly taken up with his volunteer corps. Mrs. Marsham says she is more bored with soldiering than she ever was with insect hunting. In fact, our friend thinks of nothing but the repelling of our daring foe, and the sticking of Frenchmen instead of the sticking of insects.

with which he took an affectionate farewell of one of his warmest friends:—

"Quis desiderio sit pudor aut modus
Tam cari capitis?"

Mr. Mac Leay died July 18, 1848, in the 82d year of his age. The Linnean Society are in possession of a portrait of him, painted by Sir Thomas Lawrence.

"I have heard nothing from Latreille since the letter which you saw. I wrote to him about ten days ago, pointing out to him a channel by which he may send me a letter if he chooses. I observe you have been picking up rare things this summer. I send you my list of desiderata of British Coleoptera. It is a woefully long one, but I hope your kindness will shorten it. The only acquisitions I have made since I had the pleasure of seeing you are a few duplicates from General Davies, and about 200 Insects from New South Wales, which I had not before. The greater part of these I purchased from old Drury.

"The war has deprived you and me of the pleasure which we anticipated from seeing Fabricius and Latreille at Barham. I assure you I was not a little pleased with the prospect of the great Entomological meeting which you proposed having at Barham. Such a meeting, however, may yet take place.

"I am ever, my Dear Friend,

"Yours most faithfully,

"ALEX. MAC LEAY."

The meeting here spoken of would indeed have been a happy one, could it have been accomplished by two men so thoroughly amiable as Fabricius and Kirby,—affording to the one an opportunity of disclaiming any personal feeling in the remarks he had made in his work, and to the other of learning from his own observation that it was utterly repugnant to the nature of his host to inflict a wound otherwise than for the purpose of effecting a cure.

I regret that I am not in possession of Mr. Kirby's answer to the manly and generous letter of Fabricius;* but from other parts of Mr. Kirby's correspondence, it is easy to gather that it was his system he attacked; and that, under a not unnatural figure of speech, he made the originator of the system bear the blame which justly attached to the vain pretensions of those who, while they professed to be his followers, had taken little pains to

* See page 200.

imbibe the real spirit of him, whom they claimed as their master. The meeting, however, of such men as Fabricius and Kirby, and under such circumstances, is a delightful episode in life to contemplate, even in its projection.

Not only was all personal intercourse prevented, but even the privilege of receiving letters from the continent denied: it was to little purpose that Mr. Mac Leay pointed out "a safe channel;" the strict police regulations of France, would not permit it to be used without imminent danger.

That Latreille would not only have corresponded freely, but would have made every effort to be present at Barham Parsonage to meet the flower of Europe's naturalists, is clearly shown by the following letter:—

M. Latreille to Mr. Mac Leay.

"Paris, le 17 Juillet, 1806.

"Monsieur,—Vous m'avez fait grand plaisir de me donner de vos nouvelles; car je m'ennuyois beaucoup de ne pas en récevoir, et je n'aurois pas tardé à vous écrire quand bien même vous ne m'auriez pas prévenu. Votre long silence n'a rien changé à votre tendre amitié pour moi: il semble que chacune de vos lettres doit être accompagné d'une nouvelle attention à aller au-devant de ce qui peut m'être agréable. La suite des insects Indiens de Donovan, et son ouvrage sur ceux de l'Australasie, m'ont singulièrement plus; mais je crains que le dernier livre ne devienne très cher, et mes facultés ne me permettent pas cette nouvelle acquisition. Je suis malheureusement obligé de mettre de bornes à l'accroissement de ma bibliothèque entomologique. Je n'ai qu'une place très modique; encore pourroit elle être supprimée; et les longs services que j'ai rendus à la science ne me garantiroient de l'infortune. Je ne vous ai pas envoyé mon histoire des insectes en 14 vol. in-8vo. parceque je ne suis pas content de ce livre. Il avait été commencé sur un plan étendu. Le libraire qui en était chargé ayant faillé, j'ai été contrarie pour le terminer. On a copié des figures de Panzer sans beaucoup de soin; on m'a pressé et forcé d'abréger mon travail, de sorte qu'il y a un grand disparité dans cet ouvrage. Si cependant vous le désirez, je vous l'enverrai avec l'envoi dont vous m'avez chargé.

"Le première volume de mon Genera est parfaitement imprimé, et j'ai fait tous mes efforts pour qu'il fut bien écrit; j'en ai mis en un mot toute ma science. Vous y trouverez ainsi que M. Kirby l'expression bien sincere de mon estime et de ma reconnaissance. M. Fabricius ne peut s'empêcher d'estimer votre compatriote; mais il n'a pu encore prendre sur lui de le placer au rang de ceux qu'il appelle les héros de l'Entomologie. Quant à moi, j'ai cru devoir lui assigner ce degré scientifique d'élévation parceque je le regarde comme le premier entomologiste de l'Europe, et que je ne mourrai pas content si je n'ai eu le plaisir de voir cet homme si recommendable.

"Je joindrai à l'envoi une boîte d'insectes soit pour vous soit pour votre ami M. Kirby. On imprime mon second volume; les corrections me font beaucoup souffrir, ayant un ophthalmie considérable depuis plus de trois mois. Voila déjà la 3ème ou 4ème depuis cinq ou six ans. Je crains que cela ne me contraigne de dire adieu à l'entomologie, ou du moins à l'étude des bouches d'insectes. Dans le cas que cela arrivat, je ne garderai pas ma collection et ma bibliothèque, et je désirerai bien que vous ou M. Kirby puissiez me placer ces objets. Je souscrirai à toutes les conditions que vous feriez, heureux si après avoir ruiné ma santé, je puis trouver une foible existence en me retirant dans quelque coin de province où je m'occuperois toujours cependant de collecter, afin d'être utile à mes amis!

"Vous pouvez adresser votre reponse à M. Lemogne; je suis persuadé qu'il me rendra le même service que pour le précédente.

"Agréez, Monsieur, mon assurance respectueuse,

"Votre devoué serviteur,

"LATREILLE,

"Correspondant de l'Institut.

"Place du Panthéon, Maison de M. Olivier, No. 1."

The Rev. William Bingley to Mr. Kirby.*

"Christchurch, April 28, 1804.

"Dear Sir,—Since I had the pleasure of your last letter the second edition of Animal Biography has been published: it has been before the public only nine weeks, and I am called upon by my bookseller, to prepare for another edition. As I formerly intimated to

* The Rev. William Bingley, A.M., F.L.S., of Christchurch, Hants, was born in Yorkshire, and sent to St. Peter's College, Cambridge,

you, I intend this third edition to occupy four octavo volumes; I have by me matter amply sufficient, compiled from books of travels; but I am extremely anxious to obtain as many original remarks as I am able. In writing to you for assistance, it is done in the earnest hope that you will withhold it if you find it inconvenient with respect either to your time or inclination.

"If, however, you have leisure and inclination to write down any remarks, either on the larger animals, or on the insect tribes, I shall consider myself under an essential obligation to you. I know the value of your observations too well to suffer another edition of 'Animal Biography' to be sent to the press without at least asking you for a few of them.

"You and Mr. Lathbury spoke of visiting Hampshire, and the Isle of Wight; I wish with all my heart you would, and that you would in your journey remain a few days at Christchurch.

"I remain, Dear Sir,

"Yours truly,

"W. BINGLEY."

To what extent this request was complied with, does not appear: in a letter referring to the former edition, Mr. Bingley says:—"I thank you for your synonyms, additions, and corrections; I shall be glad to adopt them all."

Mr. Mac Leay to Mr. Kirby.

"Feb. 20th, 1805.

"My Dear Friend,—Your objection to *Apion* as a generic name is certainly just; nevertheless, I recommend your retaining it, rather than giving a new one: a bad name already known is always better than a good new one.

in 1795. While an undergraduate, he made two tours in Wales, which furnished the subject of his first work—"A Tour through North Wales in the Summer of 1798," in two vols. 8vo. His "Animal Biography" was first published in 1802, in 3 vols. 8vo., and was succeeded by several other works. He died in London, March 11th, 1823.

"I have been describing eighteen Botany Bay Lepidopterous insects, which are about to be published by Lewin, with all their changes and natural history. Amongst them, there is a most distinct new genus (in my opinion), which I propose to name Nycterobius, from Νυκτροβιος, Noctu victum quæreus. The caterpillars form for themselves holes in the trunks of trees, where they hide themselves in the day-time: at night they come out and gnaw off leaves, which they drag to their holes; and when they have provided a sufficiency for the next day's consumption, they retire and feed leisurely, with their heads towards the mouth of the hole, which is covered by a curious contrivance . . . . Pray when shall we see you in town?

"I remain,

"Yours most faithfully,

"ALEX. M'LEAY."

"London, 1st May, 1805.

"My Dear Friend,—I am very much obliged to you for your supplementary letter, which I received to-day: it is to it that you are indebted for my now returning to you your observations on *Apion*, which, to tell you the truth, I only skimmed over until to-day, intending to defer the full consideration of it, until I should have more leisure.

"I am exceedingly pleased with your observations on *Apion;* it is indeed excellent,—but you will observe that I speak of it generally. I most perfectly concur with you in opinion respecting the natural genera comprehended under the name of *Curculio* by Linn., and after him by our friend. There are many things for which Fabricius is blameable; but surely entomologists cannot be sufficiently grateful to him for his endeavours (generally successful) to give constant and distinctive characters to genera which, prima facie, appear to be different, although difficult to be distinguished by Linnean characters only. It vexes me that our good friend will not allow Fabricius any merit at all, while I feel more and more disposed to praise him every day.

"I have not seen Mr. Marsham this age, nor have I looked at an insect for the last two months . . . . When you come to London I am determined to make leisure if possible, and then we shall cut a few capers together. I am much pleased with your plan of the Fauna, but I really am afraid to undertake a share of it at present: we shall, however, talk over this when we meet. What a terrible

state our political atmosphere is in! Ready to cut each others' throats at home, while the enemy is at our gates. I tremble for the consequence.

"Yours most faithfully,

"ALEX. MAC LEAY."

"London, 12th Nov. 1805.

"My Dear Friend,— . . . . I congratulate you most heartily on our recent glorious naval successes; they are indeed most splendid; and, if it were not for the loss of our great Nelson, would have been complete.

"It is astonishing how much Lord Nelson's death is regretted,— during our illuminations and rejoicings here for the victory, you could hear nothing in the streets, even from the lowest rabble, but expressions of regret. I am happy to find you have got another so plentiful a cargo from Major Gyllenhal: I have only to say, that I hope you can spare me *many* duplicates . . . . I will take care to send you a plant of *Aloe ferox*. With kind wishes,

"I remain,

"Yours most faithfully,

"ALEX. MAC LEAY."

The bountiful present above mentioned was accompanied by the following letter, dated

"Septem. 5, 1805.

"Celeberrime Domine, amice exoptatissime,

". . . . Tuas litteras cum ingenti numero insectorum Anglicanorum e classe Coleoptratorum accepi: gratias quam maximas, e toto corde tibi refero ob dona hæc, mihi pergrata: ex insectis missis 70 circiter species mihi ante ignotæ erant; ut ex catalogo jam adposito videtur.

"Si ex insectis vel priore vice, vel nunc a me missis specimina plura tibi placent ea communicare jubenter velim; etiam e sequentibus insectorum classibus alia vice mittam si tibi placent; insecta enim omnia quotquot obtinere possum etiam exotica colligo . . . .

"Vale et pergas favere,

"L. GYLLENHAL."

The Rev. James Dalton to Mr. Kirby.

"Copgrove, Feb. 11, 1805.

"My Dear Sir,—I received your letter yesterday, and was most truly glad to find that my miscellaneous articles had afforded anything worthy your notice. Pray, pray never again mention the word restitution,—my labours shall ever be at your service; and when I have made up any collection of such as do not already occur in those you so kindly propose to return, they shall be forwarded to Barham. Indeed, I may be almost guilty of selfishness in so doing, as those you return will be properly named, so that I shall in the end have a better volume than any I can at present purchase from the bookseller.

"Oh! Mr. Kirby, I have found such a friend in a jobbing gardener near my house, as few people have been fortunate enough to encounter. Alas! like all terrestrial possessions, he is fleeting and transitory; every assizes,—nay, even every quarter sessions, may deprive me of him for ever. My friend is a capital collector of insects; but, according to Fielding's idea of Jonathan Wild, he knows not how to make a distinction betwixt *meum* and *tuum*, though he has a miraculous facility of converting both into *suum:* I do really tremble for him, now that His Majesty has been graciously pleased to appoint High Sheriffs for the different counties.

"I have to thank you, also, for your kind attention to my herbarium, which will be greatly improved by your goodness. The genus Salix I am not so very anxious to have *native* as *complete*, for the sake of future investigation: I know your county to be most favourable to a botanist, and will beg of you to think of me in your summer rambles. I am busy with mosses, and find great want of a good microscope: Peter, amongst 10,000 unperformed promises, has neglected to give me some information where and how to apply upon this subject . . . . I fear I have tired you with this uninteresting letter; but do we not too often use those the worst who deserve the best from us? In plain good old English sincerity,

"I am, Dear Sir,

"Very truly yours,

"Jas. Dalton."

"Copgrove, April 8th, 1805.

"My Dear Sir,—The proverb 'no longer pipe, no longer dance' has to me something so odious in its nature, that I just put you to the expense of a letter rather than risk the application of it to myself. Your liberality has enabled me to pursue the study of a most beau-

tiful part of Natural History with comfort and satisfaction: an eager desire to make some little return for your unmerited goodness, spurs me on in the pursuit. I have already made some additions to my catalogue, particularly in the genus *Staphylinus*, to which, on your account, I pay particular attention. When the summer is over, Deo optimo maximoque volente, you shall have the entire fruits of my industry. I will add a catalogue of what I possess, that a duplicate may be returned where an insect occurs not already mentioned in it, provided it be not worth your own acceptance,—*by no means otherwise:* those also which, very contrary to my wishes, were returned, and which are certainly valuable, shall again visit Barham. Our weather has been most severe for the season, and attended with snow, frost, and hail, so that very few insects have ventured from their coverts: we have had some fine rains, however, and the sun shines with such splendour that I begin to think of sallying forth, armed with pill-boxes, in quest of our favourite prey. With mosses I have been very fortunate, having discovered many of our rarer species, and one or two hitherto non-descript . . . .

"Mr. Crowe, of Lakenham, very politely sent me cuttings of most of his fine collection of willows. I was very anxious to have specimens from him for my herbarium; and I verily believe that this anxiety was the cause of my expressing myself with obscurity, so as to produce the untoward mistake which took place. My garden is very small, though enough for the living of £60 per annum, and by no means equal to the culture of anything beyond vegetables necessary for the family. I live very retired, take the best care in my power of my little parish, and am grateful to heaven for—I do verily believe—a more than common portion of real happiness. Wants must exist, and a friend of pursuits similar to my own is one of the few I have to lament: yet this has its alleviations;—Mr. Kirby allows me to pester him with my letters, and kindly supplies those deficiencies which, but for his liberality, must have remained upon score. Truly sensible of this, I beg leave to sign myself,

"Dear Sir,

"Your faithful friend and obliged servant,

"JAMES DALTON."

"Copgrove, Nov. 24, 1805.

"My Dear Sir,—I was favoured with your last obliging letter, and beg leave to assure you that I am thoroughly grateful for its contents . . . . I am rejoiced that my boxes contained anything worth

your notice. With regard to *Curculiones*, I can only say that I have examined very few of them. I wished to collect a large number of the species, that comparison might facilitate the investigation. *C. pini* I never procured but once, and that at Harrowgate in the summer: it is a good specimen, and, with any, or all if you please, *most heartily* at your service. It has pleased heaven to bless me with an active mind and body, so that you may depend on my keeping a sharp look out, when the time for entomological pursuits arrives. I have no books upon the subject, and will, if you recommend it, buy Martyn's work, or any others. Now that you so kindly take me by the hand, I have no fear of success. Botany is, and ever will be, my darling pursuit; I took it up under a severe affliction of Providence, and it proved a kind friend to me . . . . I have not heard from our friend this age: though I have had ten thousand promises from him, he never got farther in the performance than the packing up some entomological pins, which he never sent. If I catch him at Copgrove, revenge shall be the order of the day.

"Adieu, my dear sir; I have trespassed grievously upon your time, and will release you with assurances of the friendship of

"Your much obliged friend,

"JAMES DALTON."

"Copgrove, Dec. 16, 1805.

"My Dear Sir,—Your letter, received yesterday, gave me infinite pleasure. I have a box of insects ready for sending off, amongst which you will see some old friends, and, I trust, some others worth your notice.

"The last season was most unfavourable; but still I was not altogether unsuccessful. I do really feel so anxious to serve you, that I shall grow absolutely nervous when the time arrives in which I may hear whether I have added anything either new or rare. I feel confident you will be glad to hear that I have everything settled with respect to my new church preferment, and that, quite to my satisfaction. Providence has been very kind to me, and I fervently pray that I may deserve the blessings heaped upon me. The cheerfulness of your style pleases me much: my own turn of mind has ever been inclined to mirth,—perhaps too much so; but things are altered, and are still altering,—I can think as deeply as my neighbours, in spite of all the volatility with which I was born.

"The insects, which shall be sent off immediately, are packed with all possible precaution. I wish I could have filled the box. You

will find a specimen of the *Curculio pini*,—not large, but very perfect. A friend of mine caught two others, but he thought them too small, and *turned them out to grass ! ! !* A long-eared varlet! Does he not deserve a similar fate? It is singular enough that they are annually caught in his house at Harrowgate. He has given one to Sowerby, and has promised me all he takes in future. I have begged that no more grazing be adopted . . . .

"I am, my Dear Sir,

"Your faithful friend and servant,

"JAMES DALTON."

CHAPTER XIII.

Mr. Kirby's Views on Calvinism.—Appointed to preach a Visitation Sermon.—Resumes his Work on Prophecy.—Correspondence: Sir Thos. Cullum, Sir W. J. Hooker, Mr. Bingley, M. Latreille, Sir Joseph Banks, &c.

Mr. Kirby to the Rev. Charles Sutton.

"March 22nd, 1805.

"My Dear Sutton,—..... I must now mention a theological work that I have conceived in my mind, and in which I want your help in borrowing some books for me. There has been much controversy of late years, as you know, between the Calvinistic or Evangelical clergy, as they invidiously name themselves, and the other church divines, concerning the doctrine of the Church of England itself; the former affirming that they alone are the true churchmen. Now, though a good deal has been done by Daubeny, the Bishop of Lincoln, Hipling, and others, to prove that they are mistaken, yet I do not find that any one has gone regularly through the Liturgy, Homilies, &c. of the Church, to select all the passages that look either way, arrange them under proper heads, and contrast them with the sentiments of the soi-disant evangelical ministers. Such a work, if properly executed, would, I should hope, terminate the controversy. I have gone through the Liturgy with this view, and marked all the passages I propose introducing. My plan is to take all the articles that have a reference to the opinions disputed between us, and under each arrange in two columns passages from the Liturgy, &c. and from the Calvinists. But as I wish to give their own sentiments in their own words, I must read the works of such of the moderns as profess to be members of the Church. Overton's book you can borrow for me of Dr. Sayers, and Dr. Jonathan Edwards, and a book by Bowman, printed at Norwich. I think Sir Richard Hill published a Catechism,—this I want to see, if you can borrow: or any others of this stamp by *Churchmen*, that you can borrow for me. Tell the Dr., since we seem to have different sentiments upon this subject, that if I do not make out my point fairly, I won't attempt it at all. My object, if I know myself, is not opinion, but truth. I shall 'nothing extenuate, nor set down aught in malice.'

"Upon the subject of predestination, throughout her Services our Church seems studiously silent and reserved. It is evident that she wishes a subject so deep and inscrutable as the Divine decrees, should not be discussed or brought before her people, and, therefore, she never delivers her sentiments explicitly upon the subject, but so words her 17th article, that the moderate of both parties may subscribe to it according to the literal sense, and hold different sentiments upon these curious points, without intending a departure from it. It is remarkable that in none of her epistles does she introduce those passages from St. Paul, upon which the Calvinists ground their doctrines. There is nothing in her Liturgy, and scarcely anything in the Homilies, that looks that way.

"Make my acknowledgments to Dr. Sayers for his letter, and tell him that upon his recommendation I have sent for Schleusner's Lexicon, which I eagerly expect.* I wish you could contrive to get the Dr. over to Barham while you are with us.

"Believe me, yours most affectionately,

"W. KIRBY."

The projected work gave way before subjects demanding more immediate attention. The relinquishing it certainly did not arise from any want of conviction in Mr. Kirby's own mind, but most likely from his not being able to devote sufficient time to ascertain clearly the sentiments of the modern school: or it is possible that he found some of their writings less objectionable on the particular ground of Predestination than had been represented to him.

In the year 1806, Mr. Kirby was appointed to preach at the Visitation of the Bishop of Norwich, held at Stowmarket. The text made choice of was Luke xxi. 28—"And when these things begin to come to pass, then look up, and lift up your heads; for your redemption draweth nigh."

* The first edition of this work, entitled "Novum Lexicon Græco-Latinum in Novum Testamentum," appeared in Leipsic in the year 1791; the second edition is here referred to, which was published in 1801.

The matter of the sermon related to the signs of Christ's Second Coming, considered and compared with the events that were then taking place in the world. An untoward event occurred in connection with this discourse; for Mr. Kirby had scarcely proceeded farther than to set forth his proposed arrangement, when he was seized with violent spasms, and obliged to be carried from the church. He afterwards prepared the sermon, with additional notes, for publication, but I believe it never was completed. In making preparation for a sermon upon this subject, Mr. Kirby did not confine his attention simply to the passing events in our own country, but gave an outline of the state of affairs in the East, as they were connected with religion. The infidel power which arrests his attention in Europe, he is not less able to trace in the superstitions of the East. Mr. Kirby remarks, "that at the same time that the infidel sect arose in the West, to punish and torment the adherents of the Papacy, a similar sect arose in the East:" these Wechabites or Wehabites, are described as a deistical sect, as inimical to the Mohammedan superstition as the French infidels were to the Romish. It appears that these sectaries attacked, and sacked Medina, the burial-place of Mohammed, and destroyed his tomb.

"The Papal tyranny and Mohammedanism are said to have arisen in the same year; and that a sect should also arise in the bosom of each, at the same period of similar principles, inimical to them, is a coincidence most truly wonderful, which makes bare the holy arm of a superintending Providence, as directing the events that are now taking place in the world....."

So deeply was Mr. Kirby engaged at this period of his life in theological reading, and so extensive was his correspondence on various points of interest which occurred to

him, that it seemed as if all other pursuits would lose their charms. The letters which passed between some of his mutual friends are filled with expressions of anxiety lest his devotion to the study of Theology in its various branches, should altogether absorb his mind, and leave him no opportunity for pursuing Natural History. Some superficial observers thought, indeed, this step was more in consonance with his sacred calling. They little knew that the study of Natural History while it had entwined itself around his affections, and constituted one of his greatest earthly pleasures, was embraced by a yet deeper principle, and was regarded as a subordinate part of that scheme, by which he hoped to attain to a knowledge of the perfections of Divine wisdom and goodness.

The habits which Mr. Kirby acquired, and had firmly fixed upon him by more than earthly power, when studying the Word of God, were pre-eminently useful to him in investigating matters of natural philosophy. I do not here speak of his insight into philosophical truth, which is supposed by some to be directly and accurately given in plain teaching in the Bible; but I refer simply to the manner of investigating its truths, whether relating to the natural world in which we live, or to the deep counsel of our Heavenly Father, in bringing to pass the final redemption of the children of his love. These latter subjects Mr. Kirby never approached, as we before have intimated, without earnest supplication that he might submit his judgment to a higher power. The spirit of patient humility which he thus acquired, he did not throw aside when he left these enquiries, but, in the same frame of mind, he turned with readiness and facility from the investigation of God's word, to that of his works. A holy and reverential awe was ever present with him. The word written was by the inspira-

tion of God. No fond imagination, no pre-conceived opinion, no favourite prejudice, or hasty judgment, could be allowed in examining its deeply hidden truths.

The whole animated kingdom, from the great Megatherium of an age gone by, to the smallest insect yet perchance to be discovered, was the work of the same God. Be the system of creation what it may, he who would lay open one fold of its mysterious covering, must submit his speculative genius to the same yoke of humility, as those who scan the work of the Omnipotent in his dealing with mankind, or trace out the designs of the Omniscient declared to us, for all-wise reasons, in the dark speech of prophecy. To this latter subject Mr. Kirby now directed his studies, and resolved to take up again the work which he had laid aside.* He only progressed, however, so far as to complete his Introduction to fulfilled prophecy. His MS. was in part submitted to friends on whose judgment he relied, and from them he received great encouragement to pursue the more difficult part, of rendering practically useful, an enquiry into those predictions which are supposed to have received their completion since the coming of Our Lord, or which yet remained to be fulfilled.

I cannot but remark here, that the hand of Providence seems as if it might visibly be traced in the obstacles, so slight in themselves, which prevented him from committing to the press opinions, and interpretations of Scripture, which he afterwards saw cause to modify and alter.† Although it would be to little purpose to follow these opinions, and to hazard conjectures as to what were Mr. Kirby's final views, yet there are parts of his correspondence connected with this study, which are not without interest, illustrating as they do

* Vide page 165.

† Vide page 168.

the passing history of that period. Many besides Mr. Kirby were anxious not to be behindhand in perceiving the hand of God working out his own schemes, hidden to those who have eyes and see not, and ears but hear not. This led them, in common with him, to note the wonderful and strange manner in which avowed infidels could court a people, separated from all around them, by their firm and determined adherence to their religious creed. The anomaly is now no longer apparent—time has solved the enigma, and shown that base and sordid motives of self-aggrandizement were the sole dictates of those who sought the alliance. The end has shown that the conjectures of many deep-thinking men were wrong, but it does not prove that their studies and observations were unprofitable.

The following extracts from letters written by a gentleman engaged in business in the City, addressed to Mr. Kirby, show that the Jews themselves were roused by the movement referred to:—

"June 4th, 1807.

"Our friend Mr. Lathbury, himself all energy and activity, has, I fear, Sir, brought me into a dilemma, from which I shall not easily clear myself: I should, indeed, be very happy to give you any information in my power, particularly on a subject so interesting, but I fear, Sir, our friend has, to use an old proverb, 'been measuring other people's corn by his own bushel.' He is full of information, and expects every one to have made good use of their time as he has; when he last visited us at Hackney, he found me, indeed, with a mind full of your subject (and I cannot well imagine how a mind at all seriously disposed, can in these awful times be otherwise), but, alas! this fulness resembles the fulness of a man after a feast,—it wants digestion before it can be of any service to him, and it proceeds from nearly the same cause.

"With open ears I have devoured everything that had the least affinity to the subject in question, and being often on 'Change, where from the failure of trade of late, 'the merchants of the earth have been mourning and weeping,' I have very gladly employed my other-

wise useless time, in endeavours to draw from Jew, Turk, Infidel, or Heretick, anything that would throw a light upon the darkness with which the world seems at present covered; but I fear, Sir, such information as you require,—I mean authentic,—is scarcely to be had; anecdotes I certainly have heard, but few to be depended on. When I return to town, I shall, with your letter in my pocket, take my station again, and having some decided points of enquiry, I will endeavour to procure you something more authentic than I can at present afford; in the meanwhile, what remains on my mind you shall have, more in compliance with our good friends' wishes, than in any hope that it can be of utility to you; you must take it 'rudis indigestaque,' as it arises, and if, like your own bees, you can extract one particle which may be of service, I shall be truly gratified. Respecting Buonaparte's politico-religious views, I can give you the opinion of some Frenchmen, with whom I have lately conversed. He certainly intended to have established Popery in full splendour without toleration in France, had he not been prevented by this present war. A book has, I understand, been published, written with great art and ability, for the purpose of proving that there should be but one religion in a nation, and that, in France, that should be Popery. I have not been able to procure a sight of this book; the extracts from a curious catechism to the same purport, you probably have seen,—I think in the Antijacobin Review; this would be a very natural track for his polity to proceed in, and would be a striking union of Infidelity and Popery. Should a plan of this kind be carried into execution, it would have a material effect on the situation of the Jews; it would tend very much to embody them, for it would be utterly impossible for them to reside in a country where every measure is carried through with so strong a hand. From the best information I can procure, the Jews in France are not in that comfortable state in which we find them in England,—they are to the utmost adhorred and detested, allowed to live only in one quarter of the towns; this abhorrence is we know universal, and I think there is no doubt that in general on the Continent, if not here, they are looking for some great event. The foreign Jews certainly expect that Buonaparte will establish them as a nation, under a monarchical government: this I had from a very sensible Jew, who added, 'Sir, the Jews abroad are so horribly oppressed, that you cannot wonder they should be looking to some great change,—it will come some time or other, why not now;' or words to that effect: he also repeated the words 'the foreign Jews,' and added 'that they expected to be settled in Italy, or per-

haps Egypt,' not hinting at Palestine. In some of their addresses, the Jews do almost acknowledge Buonaparte as their Messiah, and surely his character is very much what they did look for formerly,—a temporal prince, a mighty conqueror, who promises to re-establish them as a nation; and in some of his manifestoes, though I do not know where, I recollect he declared himself the instrument, if not the emissary, of the Almighty.

"Thus have I filled my paper, and filled it indeed with trifles, but they will be an earnest that if I should meet with anything more suitable to the great purpose you have in view, you may depend on my employing it to your use; should the public mind be brought at this time to perceive how much the hand of Providence is at work in all the great events now succeeding each other, you will, indeed, render an essential service. Hoping for farther correspondence,

"I am, Sir, with much respect,

"Yours,

"BADEN POWELL."

"October 10th, 1807.

"Dear Sir,—..... I think I have ascertained that many of the more religious Jews expect a Divine interference in their behalf, and that in this country there are some who at least are considering the probability of a restoration of their people to Palestine; and I have been given to understand that the purses of some of the rich Jews would be open to forward such a design, and that many from ambition, and the hope of obtaining power, would with great zeal, second such views. That there are a large number of Jews in Buonaparte's army, many officers, and some generals, I have reason to believe. My informant says, he knows a general officer who is a Jew, and this I think we have confirmed by the Sanhedrim. I find the Jews very shy of speaking on the subject, and very cautious when they do. Everything I have heard, and everything from their manner I can conjecture, tends to confirm the notion that they are a nation, 'Expecting, expecting;' and that they now begin to lift up their heads, though, I fear, more from having been forced into notice by Buonaparte than from any expectations drawn from their own prophecies: indeed, they appear to be much in the same state with the heathens, before the coming of our Saviour. They publicly confess their own wretched state, and the necessity of a deliverer, without reverting to those prophecies wherein they so strongly have the promise of deli-

verances. I perfectly agree with you in considering the transactions of the Parisian Sanhedrim as a most curious document,—I am very sorry I missed the pleasure of being the first to hand it to you,—it is an extraordinary production: it had a rapid sale at first, and for some days was not to be had. During their debates, when their dispersion is so often and so forcibly mentioned, that there should not be even a distant glance at their own country, is, indeed, surprising: does it not arise from the same blind spirit which they exhibited when they crucified the Messiah? I shall be very glad to hear in what light you look on a passage which no doubt has taken your attention, though, perhaps, not in the same mode exactly as it engaged mine. The blasphemous intermixture of the characters of Jehovah, and the cyphers of Buonaparte,—and the circumstance of placing the Eagle above the Altar, are surely so near a resemblance of the action recorded in the destruction of Jerusalem by Titus, that they appear like a repetition of the transaction; and if there is to be a similarity in the signs, previous to both those events, concerning which the disciples were desirous of information, have we not here 'the abomination of desolation standing where it ought not?'

"I am, &c.

"BADEN POWELL."

Sir Thomas Cullum, Bart. to Mr. Kirby.

"Orwell Park, 1807.

"My Dear Sir,—I have been here a few days, and wished very much to have taken a ride over to Barham before I left this part of the country, but have unluckily been prevented. I return home on Monday. On my way I shall call at Barham, as soon after 10 as I can, that I may spend half an hour with you..... I have taken the opportunity of conveying to you some of the nidi of the *Apis manicata*, which built this summer as usual in my garden lock: there is some of the pappus of the *Anemone sylvestris* in the boxes, but probably you are right that it is probably from the *Stachys lanata* or *alpina* that this bee collects the down with which the larvæ are enclosed.....

"I am, Dear Sir,

"Yours very truly,

"T. G. CULLUM."

This Bee, and the opinion of Mr. Kirby respecting its nest, are referred to in a most interesting part of the

"Monographia Apum Angliæ." Mr. Trimmer had reported to Mr. Kirby his observation upon its movements; he had seen it constantly upon *Stachys germanica*, *Agrostemma coronaria*, and other woolly-leaved plants, and was curious to know the reason of this preference. At length he discovered that it was the wool upon the surface that formed the attraction: "for he observed the little animal, with her strong maxillæ, scraping it off with great industry and perseverance, and while these were thus employed, rolling it up with her fore-legs into a ball; making all the time a considerable hum." Mr. Trimmer could only conjecture that the wool was employed in the construction of the nest. This was confirmed by Sir Thomas Cullum's discovery of a nest in the lock of one of his garden gates, which was communicated to Mr. Marsham in a letter dated Oct. 10, 1800: the nidus was subsequently sent to Mr. Kirby (April 2nd, 1801).

When the paragraph was written in the "Monographia Apum," the pupæ were not disclosed, so that conjecture alone could be formed as to the insect; the materials of the nest, however, were more open for examination, and upon this point Mr. Kirby then wrote—"It is with some hesitation that I venture to differ from so accurate an observer as Sir Thomas Cullum, but it appears evident to me that the wool which envelopes the nest and the cells, is scraped from the leaves of one of the plants mentioned above. I gathered some leaves of *Agrostemma coronaria*, and with my penknife shaved off some of its down, and upon comparing it with that used in the nest, under a magnifier, I found that they were exactly the same. This, in conjunction with Mr. Trimmer's account, persuades me that the material employed in this instance is not the pappus of *Anemone sylvestris*, which is of a more silky texture."*

* Monog. Ap. Angl. Vol. i. p. 174.

After a very accurate description of the manner in which the cells were formed and covered, the account of this bee is terminated by the observation:—"This bee is very common in gardens in towns, or in the neighbourhood of towns. I never met with it in my own garden, or in the country."* A note in Mr. Kirby's writing in his own copy of the work corrects this statement, for he there says,—"I took it in my own garden, Aug. 13, 1802, collecting honey on a sunny day from the flowers of *Digitalis ferruginea*:" thus adding another to the catalogue of bees found in the parish of Barham.†

Mr. W. J. Hooker‡ to Mr. Kirby.

"Norwich, April 4th, 1808.

"Dear Sir,—I had the pleasure of receiving your letter and parcel at Yarmouth, where I had been spending some time with Mr. Turner. Both my brother and myself beg you will be in no hurry to return our insects; take your own time, and do not think of examining them until it perfectly suits your convenience. The winter months, and consequent perfection of cryptogamous plants, have in some measure taken my attention off from insects of late; I have scarcely taken one myself, and have only added to my collection through the kindness of my friends. I had the pleasure of receiving a valuable parcel from Mr. Spence the other day, containing twenty or thirty species quite new to me.... I am much obliged for your genera of *Staphylini*, which I have no doubt I shall find useful when I can spare time to examine it with the insects themselves.... I thank you for the trouble you have taken to look for *Bœomyces cariosus*. When I go to London about the middle of May, I will set off a day sooner, that I may spend one at Barham in order to find it. Are you likely to be at London during the Anniversary? As soon after it as possible I have engaged to spend a short time at Copgrove with Mr. Dalton, in order that I may botanize and hunt for insects at Ingleborough.

* Monog. Ap. Angl. Vol. i. p. 176.

† Vide p. 196.

‡ Now Sir W. J. Hooker.

.... It is most likely I shall proceed from thence to Scotland again, where I intend making Entomology more an object of pursuit than I did in my last excursion there....

"I have much pleasure in sending some papers of mosses: I believe one or two of every genus in Fl. Britannica except *Tetraphis*, of which I have not a duplicate by me now. Should you feel inclined to continue the study of mosses I shall be very happy to send you any I can spare from my duplicates, in which I am at this time tolerably rich. I am much obliged to you for the specimen of *Crocus vernus fl. luteo;* it is, as British, a curiosity,—perhaps you will find more of it next year....

"Yours very sincerely,
"W. J. HOOKER."

"Norwich, Nov. 24, 1808.

"My Dear Sir,—I have just had a note from Dr. Sutton, who is so good as to offer to enclose in a parcel which he is about to send, a box from me.... What few things I have for you shall be enumerated and transmitted with this.... My botanical acquisitions in the North were greater considerably than my entomological, although by no means what we expected in so high a latitude. Indeed, it is impossible to conceive of any thing more barren than many parts of the North of Scotland,—particularly in the counties of Caithness and Sutherland. It was only upon the summit of some of the highest mountains, that we got some few plants, new to Britain. But many of our things were spoiled by wet: it was impossible to keep them from the water in the innumerable rivers we had to ford. Yet upon the whole we may think ourselves fortunate in having brought home what we did. The ninth volume of the 'Linnean Transactions' has arrived. I have had the pleasure of looking over your admirable Monograph of the genus Apion.* I shall soon arrange my little collection according to it. My brother and I cannot but feel sensible of the honourable manner in which you have mentioned our names. I wish I may continue to deserve it. Accept for Mrs. Kirby and yourself the best respects of my family, with those of, Dear Sir,

"Yours most truly,
"W. J. HOOKER."

* Linnean Transactions, Vol. ix. p. 1.

The Rev. W. Bingley to Mr. Kirby.

"My Dear Sir,—.... Amidst all my avocations I generally contrive to have two hours every day for Natural History; and last summer I began upon the Lepidoptera, an order in which I find much more amusement than in Coleoptera, from the circumstance of being able to breed and rear them. You did not formerly breed these, but if by chance you possess any specimens I should be glad of duplicates, either named or otherwise.

"Mr. Burrell informs me that he is preparing for the Entomological Transactions, a description of Hemiptera, in the manner of Marsham's Coleoptera: can you aid him either immediately or through me? I am aware that your attention has of late been chiefly employed on sacred, and consequently more interesting subjects; but I cannot think you have prevailed with yourself entirely to neglect Entomology, which Mr. Marsham informs me he believes to be the case. How can I write thus when I recollect your most interesting paper on the genus Apion? Mr. Burrell says he is so much delighted with it that he shall immediately set about as complete a collection of those insects as his neighbourhood will afford.

"I have to thank you for your corrections of, and flattering sentiments respecting my intended publication. Mr. Montague has sent me his new Bat, but it was too late to be engraved; I have, however, cancelled two pages of my volume in order to admit an account of it.... With kind remembrances, I am, Dear Sir,

"Yours very sincerely,

'WM. BINGLEY."

"Christchurch, Aug 22nd, 1809.

"My Dear Sir,—You will think me very careless in so long delaying to thank you for your present of Insects: but more particularly of the Bees. The fact is, that almost every minute of my time is occupied in making my collection for the History of Hants: I have lately been under the necessity of employing much time in restoring the ornamental parts of our church. For this purpose I have obtained a subscription which will very nearly amount to £200. The whole is under my superintendence; and, when it is finished, which I can hardly expect will be till the spring, this church will afford some of the finest specimens of architecture of all ages from the Conquest.

"Towards the end of May, I made an excursion to the Devon and

Cornish coasts. The weather was most unfavourable; I did not procure a single insect, except about six Lepidoptera which I did not before possess. I brought back about sixty species of shells which were not before in my cabinet. Three delightful days (I mean not with respect to weather) I spent with Col. Montague at Kingsbridge. His cabinet of British Natural History, but particularly of Ornithology and Conchology, is extremely rich and interesting. If I have leisure it is my intention to pass about a month of next summer at Torquay, which is about twelve miles from his house. It is a famous place for fish and shells. I shall go there chiefly for the fish, in order to complete my two volumes of fishes. I have only found one specimen of the *Forficula.** The place where they are found being three miles distant, and they only appearing just at the close of dusk, I have been prevented from going often to look for them....

"I am, Dear Sir,

"Yours sincerely,

"WM. BINGLEY."

Mr. Professor Peck to Mr. Kirby.

"Cambridge, New England,

"Sept. 21st, 1809.

"Reverend and Dear Sir,—I am indebted to you for the very kind letter you favoured me with before I left England. I have been so constantly employed at entering on a course of studies wholly new to me, and to this part of the United States, that I have been obliged to apply myself most diligently to study and to lecturing, so that I have not had time to write to my friends on your side of the Atlantic.

"The study of insects would be delightful to me, if my other employments would allow me to pursue it steadily. The contemplation of their infinite variety of forms, and the unspeakably wonderful contrivance of their mechanism, irresistibly attract attention; but the great object is to know, as far as possible, for what use these living machines were made, the metamorphoses they pass through,

* This probably was the *Labidura gigantea*, noticed in the "Introduction to Entomology" as a rare species added by the research of Mr. Bingley to the British Cabinet; like the great rove beetle, *Goerius olens*, it turns over its head its abdomen, which, being armed at the end with large forceps, gives it an appearance still more alarming.—"Introduction to Entomology," Vol. ii. p. 234, and pl. 1, fig. 7.

and the means they instinctively use for the preservation of their race. When we know these our curiosity is satisfied, our admiration increased, and we feel and exclaim, 'Eminet in minimis maximus ipse Deus!'

"One of the most curious of the insects is your *Stylops*, and most heartily I wish you may be able to find more specimens* . . . . Oh! that I could have you here a little while!

"I am, Dear Sir,

"With hearty esteem and affectionate respect,

"Your obliged friend and servant,

"W. D. PECK."

Mr. Kirby to M. Latreille.

"Barham, Oct. 30, 1810.

"My Dear Sir,—I send with this a copy of a memoir of mine, published in the 9th Volume of the Transactions of the Linnean Society, upon Herbst's genus *Apion*. The species of this genus are so difficult to distinguish, from their minuteness and general resemblance to each other, that it is no easy task so to describe them as to enable the entomologist to ascertain the species he meets with. It is not for me to say how I have done this; but I hope I have thrown some light upon the subject, although I am sensible not all that it will admit—Dies diem docet. I had not then had the advantage of your most useful work 'Genera Crustaceorum et Insectorum,' for which the whole entomological world is much your debtor, or I should have had light with respect to the Instrumenta cibaria, of which, as you will see, I give little or no account. I received not long since your 'Observations Nouvelles sur les Hymenoptères,' which contain some interesting anecdotes of the insects you are treating of; your elaborate monograph on *Anthidium*, Fabric.; and your excellent 'Considérations Générales sur l'Ordre Naturel des Crustacés, des Arachnoides et des Insectes,' with the useful 'Tableau Méthodique de leurs genres.' For these books I beg to return my best thanks, and likewise for the very handsome manner in which you have frequently mentioned me in your 'Genera' and 'Monograph on Anthi-

* This letter contained an elaborate account of Professor Peck's Observations on the genus Stylops.

dium' . . . . I am at this time, in conjunction with an excellent entomologist in this country, engaged in preparing an Introduction to Entomology for the press, which I hope will prove a stimulus to my fellow-countrymen to pursue that study: it will not, however, appear for many months, as we are desirous of rendering it, 'teres atque rotundus,'—as complete as possible. I wish we could have some prospect of seeing you in England; you would find here numerous additions to the genera you have already established. In going over my cabinet in part with your genera, &c., I have found it necessary to make several additional ones, especially in Hymenoptera and Diptera. It ought not to be forgotten that our Harris was the first inventor of a system founded upon the wings,* with respect to these two classes. With every good wish for your welfare and happiness,

"I remain, Dear Sir,

"Yours very faithfully,

"Wm. Kirby."

Mr. Kirby to Baron Walckenaer.

"Barham, Oct. 30, 1810.

"Dear Sir,—You have some reason to complain of my not having sooner returned you my thanks and acknowledgment for your excellent 'Tableau des Araneides,' which I received with avidity and approbation, although I have been but little conversant with the apterous tribes of insects. At that time I was in the expectation of being able to send you a copy of my Memoir on Herbst's Genus Apion, which was published in the 9th Volume of the Transactions of the Linnean Society; but it was not published so soon as at that time I expected it would, and I have not had it in my power to send you a copy of it as I wished, until now.

"Accept, sir, and read it with the eye of a friend: its principal

* Mr. Kirby was not at this time aware that Frisch could dispute his claim.—See Linn. Trans., Vol. xi. p. 100.

M. Latreille in his work associates Mr. Kirby's name with that of Frisch and Harris. He says:—"Frisch, Harris, Kirby alarum reticulationem characteres genericos et secundarios exhibere observârunt,' &c.—Gen. Crust. et Ins., iii. p. 226.

merit, if any, is in the discrimination of species, which in genera, *the species of which are so minute,* are often confounded.

"I am, Sir,

"With the most perfect consideration,

"Your most obedient servant,

"WM. KIRBY."

Mr. W. J. Hooker to Mr. Kirby.

"Jan. 14, 1810.

"My Dear Sir,— . . . . I need scarcely tell you of what you must have already heard—the loss of nearly the whole of my Icelandic collection, by the circumstance of our ship having been set on fire: thus in one hour were the fruits of four months' labour and fatigue in a most inhospitable climate for ever lost. One small trunk, however, containing an Iceland dress, which was saved by the steward of the vessel at the risk of his life, and a small portion of my journal, are the only things which came to England with me . . . .

"My friend Mr. Paul some time ago left with me a drawing of his fly-trap machine,* which he wished me to beg your acceptance of. You would better understand its construction if you were to see the machine itself, which I am sure Mr. Paul would be happy to show you whenever you came to Norwich, and are inclined to give up a few hours in riding over to Starston. The specimens of young turnip plants will give you an idea of its use: the larger ones are from the same field as the smaller ones; but that part from which the larger ones came was cleared of the fly by the machine. Both are of the same age . . . .

"Believe me ever, my Dear Sir,

"Most faithfully yours,

"W. J. HOOKER."

* The best remedy against the turnip-fly has been proved to be good cultivation, and getting the plant rapidly to form its rough leaf. It is probable that this machine, with others of similar construction, might have had some influence in promoting rapid growth, by passing over the soil. The modern system of using artificial manures has superseded the use of machines.

Sir J. Banks to Mr. Kirby.

"Soho Square, Aug. 10, 1810.

"My Dear Sir,—The disease* in wheat, specimens of which you have been so good as to send me, was unknown to both Mr. Bauer and myself when we had last the pleasure of seeing you here; but it is now some years since we have been acquainted with it in Sussex, where it is called the Ear Cockle. Some absurd botanists have believed that it is produced by the pistillum of the wheat receiving impregnation from the pollen of *Agrostemma*.

"It is, in fact, the most interesting disease we have met with. The cause is small animalcules in the form of worms, which are verily *Animalculæ infusoriæ;* they are so minute that they are invisible, unless to the double microscope. They clearly enter into the circulation of the plant; for if a grain of wheat is covered with them, and afterwards sown, it will produce diseased grains, filled with these animals,—as grains of wheat dusted with smut will produce smut-balls instead of corn. But what is still more interesting is, that the animalcules, if placed on a plate of glass, move briskly as long as they are covered with water; but when the drop is dried up, they appear no more till water is again dropped upon them, which in a short time revives them from their insensible state, and makes them move about as briskly as ever: some of those in Mr. Bauer's possession have remained upon the glass for more than two years, during which period they have been awakened six or eight times; they were as brisk and as lively when last awaked, after about two years' residence on the glass, as ever.

Here, then, is the true explanation of *Animalculæ infusoriæ*, which have caused so many people to feel uncertain whether some creatures at first are not generated without procreation. These are the minute beings which inhabit the humid circulation of wheat. Every plant, in all probability, has its little stock of minute internal inhabitants, whose continuation is guarded by nature, under the extraordinary provision of remaining torpid while dry for years, and reviving in vigour and activity as soon as they are again immersed in a humid medium.

The disease is now known as being produced by the animalcule referred to by Sir J. Banks, which has received the name of *Vibrio Tritici*. The disease is not very common, and some districts are perfectly free from it.

Mr. Bauer has now completed drawings of all the diseases of corn arising from parasitic vegetables that we know of; and I am beginning to provide for a set of representations of the insects that are most noxious. The wire-worm is at present under consideration. I have had him six months in a box of earth in which wheat has been repeatedly sown; he continued to eat till May, when he ceased eating, but has not appeared yet in his perfect state. The only author who has written on the subject tells us that he is an Elater, and that he remains five years as a wire-worm: this may be true, but I wish from actual observations to verify it.*

Last winter, a beautiful *Buprestis* sallied out from a deal table that had been used more than twenty years as a drawing-table at Guildhall; he is a native of the North of Sweden—*B. splendida.* In what state he has continued so long we cannot tell; but he certainly entered into the deal while it was in Norway,—probably before the tree was felled. How little do we know of the state of Coleoptera between the egg and the declared insect!

"Believe me, my Dear Sir,
"Your obedient and faithful servant,
"Jos. Banks."

Mr. Atkinson to Mr. Kirby.

"Park Square, Leeds, Aug. 18, 1810.

"Dear Sir,—In looking over the 9th Vol. of the Linnean Transactions, I find you have not met with an English specimen of *Apion Astragali:* enclosed are a few, which I beg you to accept; they were taken June and July, 1809, on the only plant of wild liquorice I have yet discovered in this country, although I have walked many thousand miles in pursuit of my favourite studies, Botany and Entomology . . . "I remain,

"Your obedient servant,
"John Atkinson."

Miss C. to Mr. Kirby.

"W————, Aug. 22, 1810.

"My Dear Sir,—I have been induced, by Mrs. Trimmer's kind offer of conveying a letter to you, to trouble you with an account of rather an extraordinary phenomenon in the insect world, which has lately

* This opinion has been confirmed.—Vide Introd. to Entomology, Vol. i. p. 181.

occupied our attention; though perhaps, by calling it extraordinary, I am only exposing my ignorance. About six or seven weeks ago, Dr. Wilmot brought me what we conceived to be the chrysalis of the *Phalæna funalis*; but upon examination it appeared smaller, and differently coloured from Donovan's figure. In length, I think it scarcely reaches a quarter of an inch: its form is oval,—the colour a transparent brown, with a white opaque band round the middle; and when I first had it, I could evidently perceive the motion of the insect within.

"About a fortnight since, in showing this to a gentleman of our acquaintance, I discovered that the creature had the power of leaping to a very considerable height, although the surface of its case is perfectly smooth and round. So great were its exertions, that it repeatedly jumped out of an open pill-box in which I had placed it, which certainly was an inch in height.

"Some few days after, I had the opportunity of showing it to Dr. Wilmot, who, as well as myself, was a witness to a dance of nearly a quarter of an hour, during which time it skipped from side to side of a large drawer with a glass cover, over the backs of some other insects which were there impaled, with a degree of agility which was to us altogether surprising. Its mode of springing seemed to be to depress its habitation at one end, and to leap with the elevated end forwards. Since its exertions for Dr. Wilmot's entertainment it has been very quiet, and I am apprehensive that it will not come forth at last. I am, however, taking care of it, in hopes of knowing what is the extraordinary inmate of this animated egg. Dr. Wilmot found it attached by one end to the leaf of a bramble . . . .

"I am, Dear Sir,

"Your much obliged,

"C. J. C."

"Dear Sir,—According to your desire I have now to announce to you the long-expected appearance of the inhabitant of our extraordinary skipping egg: I know not what else to term it.

"Unfortunately I was from home when it came forth; consequently before my return the insect was dead, and on cleansing the drawer of my cabinet in which it had been placed for greater security, I could find nothing but one of the smallest ichneumons; so minute, indeed, that at first I had overlooked it, but as the drawer was carefully secured, I concluded this to have been the skipper, its size probably being reduced by starvation, as the hole made in the case for its exit

was much larger than so small an insect seemed to require. Dr. Wilmot happened to call just at the time I discovered the creature, and after some consideration we have thought the following the most probable account of the affair. You will be the best judge of whether our conjectures are well founded. The case in which this agile being was enclosed we rather suspect to have been formed by the *Phalæna funalis*, as it much resembles it in shape, though not altogether in colour. The original inhabitant being devoured by the ichneumon which was much smaller, this latter was enabled to spring from the lower side against the upper, and the force with which it struck against the roof of its dwelling caused those extraordinary leaps which so much astonished us. When we first had the case in our possession, the head of the enclosed larva might plainly be discovered through the semitransparent case moving in different directions. I think it was about October that one end of the case grew black, and from that time the leaping motion ceased. It was about the middle of April that it came forth by eating a hole at the end opposite the black spot*.....

"Believe me, Dear Sir,

"Yours faithfully,

"C. J. C."

Captain Hancock, R.N. to Mr. Kirby.

"Rio de Janeiro, April 7th, 1811.

"My Dear Sir,—To prove to you that I have not forgotten you, I send by the packet that takes this letter a small collection of insects. I shall be gratified if they are found worthy a place in your collec-

* The substance of these letters is given in the "Introduction to Entomology." The account in this work, speaking of similar observations of Reaumur, closes with the remark,—Reaumur could not ascertain the fly that should legitimately come from this cocoon, for different cocoons gave different flies; whence it was evident that these ichneumons were infested by their own parasite. This might be the case with that of the lady just mentioned. Perhaps, properly speaking, in this last instance the motions ought rather to be regarded as belonging to a larva; but as it had ceased feeding, and had enclosed itself in its cocoon, I consider it as belonging to the present head,—(motions of insects in their pupa state).—Introduction to Entomology, Vol. ii. p. 296.

tion. I have packed them as you directed; I leave the arrangement to your better judgment. These have been collected in the neighbourhood of Rio. The interior is but little known or frequented, the natives extremely indolent, and but few men of science to encourage them. Some fine collections of butterflies and moths have been made; the best I have seen, by Mr. Woodford, an English gentleman, who has not anything else to occupy his time. Sailors have not the same opportunities; we are occasionally at sea, and feel rather at a loss in the woods. I shall hope before I quit the country to make some farther addition to your collection. . . . . .

"I am, Dear Sir,

"Your faithful friend and servant,

"R. HANCOCK."

The obstacles in the way of obtaining foreign productions were numerous; it must have been greatly mortifying to find a collection of treasures gathered from pure friendship utterly destroyed by the ruthless hands of Custom-house officers. Such was the fate of this box. The generosity, however, of this admiring friend of Mr. Kirby did not limit himself to one box. In a letter dated Rio, January 15th, 1812, Captain Hancock says—

"I had, I thought, provided against accidents by keeping duplicates of those sent, and a few of those of which I had only one I did not trust. But to add to my disappointment and mortification, a young rogue, to whom the officers had given a passage to the Rio de la Plata, fell in love with my box of insects, and took the opportunity of my absence to purloin and destroy nearly the whole. I have worked hard since that time, and have the pleasure to say that I have replaced them, and added some new ones.

"Two of my people who are immediately attached to me have collected nearly the whole. I have not health necessary for the pursuit: as they make their appearance generally in the hottest weather, it requires great perseverance. I think my men are fond of the employment, and rejoice when they have procured anything new. We have many collections in the ship; the surgeon has the greatest variety. There are few or no collectors among the natives, and you can only acquire them by your own exertions."

A box was dispatched shortly after this, which was conveyed in safety, but the most valuable cargo was received upon the arrival of Captain Hancock's own ship, the Foudroyant, the contents of which are thus noticed :—

"November 23rd, 1812.

"I have brought from the Brazils what I am convinced will afford you much gratification. . . . . Three years' pursuit after insects has given me a passion for collecting. I think the opening the boxes will afford you great amusement. I hope to be present; I have duplicates of most, so there is quite enough for both: a few are rare even in the Brazils. The variety is, I believe, endless, and many years of close pursuit would be necessary to collect the whole. . . . . I was not successful in large beetles; they are scarce, and difficult to obtain. I do not think that any ship ever before brought such collections. Those which I now have, and those which I sent you before, have been the labour of two men for more than two years. Latterly the negroes collected: it was the hope of gain that induced them; for not all the collections of the Brazils would be equal to that of the Foudroyant."

About this time a mutual friend communicated to Mr. Kirby some observations made upon dogs which had died of distemper, by Dr. Wilmot: whether the theory that the disease was caused by an insect or a worm in the frontal sinus gained any credit with Mr. Kirby, does not appear; but, always alive to everything asserted upon even probable grounds, he wrote for farther information, and received an answer, which if it does not solve the question, adds at least something to the history of the investigation of the disease. The answer was to this effect :—

"Two worms found in the frontal sinus of dogs have been preserved: Dr. Wilmot is clearly of opinion that the animal in question is a worm, referable to the class Entozoa, and not to that of Insecta: in length it rather exceeds two inches: the one upon which these remarks are made was found on dissecting a dog which had died of distemper: one part is broad and thin, and appears to act as a sucker to attach the creature firmly in its situation. Dr. Wilmot has by

syringing the nostrils of one, if not more dogs, removed all symptoms of the distemper: he first threw up oil in some quantity, and then soap-suds."

One of Mr. Kirby's most frequent correspondents at this time was Dr. Leach: their acquaintance and friendship appears to have been based entirely upon the interest they took in common, in the progress of Entomology, a science which was only now coming into favour in this country, and that, in great measure, through the unwearied exertions of Mr. Kirby and his friends. The letters which passed between him and Dr. Leach referred mainly to naming and distinguishing insects: interesting as these letters are in indicating the progress of the science, and dating as they do the birth and origin of many of our well-established genera and species, yet they are too technical to interest the general reader. I must not, however, omit a passage from a letter dated Edinburgh, May 4th, 1812:—

"The species you sent back as *Ocypus similis*, γ. appears to me to be really a very distinct species from *O. similis*, as you think may be the case. . . . . I shall with your permission call it *Ocypus Kirbii*, as a small recompense for your exertion in this tribe, which entitles you to much distinction, who, to use the words of my friend Illiger, 'are the only man in Britain who has hitherto published a scientific work on Entomology:' in which I agree with him."

While in Edinburgh Dr. Leach did not fail to sound the praises of Mr. Kirby to his scientific friends; amongst others to Dr. Barclay, which led to a correspondence, of which I give the introductory letter:—

"Edinburgh, August 7th, 1812.

"My Dear Sir,—I received through the hands of our common friend, Dr. W. E. Leach, the copy which you sent me of the Monographia Apum Angliæ. I now return you my hearty thanks for it, and may venture to assure you that no person has read your intro-

ductory remarks with more satisfaction than I have done, or with more lively sentiments of esteem for the author. I am not much of a naturalist: but by comparing different descriptions with the originals, I can see who has, and who has not understood the subject—who can best generalize, and best discriminate. There is much judgment, patience, and acumen, requisite in selecting the characters that distinguish genera and species. I meet with many who think they have a turn for generalizing, when, overlooking essential distinctions, they group together things that are different; and many who fancy that they have a genius for minute investigation, and are fitted for making discoveries, when they multiply species and make distinctions without a difference.

"Linnæus possessed the two faculties in high perfection,—the power of generalizing and the power of discriminating; ardent without impatience, and patient without indifference. Suppose not that I mean to flatter you, when I tell you frankly, that from examining a number of your generic and specific characters, my opinion is, that God has formed you to be a naturalist, and bestowed on you powers similar to those which he bestowed on the favoured Linnæus. . . . . I am sorry, however, that I cannot repose the same confidence in Gmelin that I once did. . . . . .

"You are not ashamed, I see, in your introductory remarks, to acknowledge that your greatest pleasure is in studying nature, and in adoring nature's God. I am proud in having the honour of addressing a naturalist of these sentiments. I was educated for the Church myself, have read all kinds of infidel and sceptical books, and yet cannot help being a christian as much as ever, and even more so. . . .

"I sent you lately, to the care of Dr. Leach, a copy of my treatise on the Arteries of the Human Body.—With every good wish for your prosperity and happiness in life,

"Believe me, Dear Sir,

"Yours with affectionate esteem,

"John Barclay."

Amongst those who had been private pupils of Mr. Kirby was John Davie, a relative; he was entered at Sidney Sussex College, Cambridge, graduated in 1799, and subsequently obtained the Mastership of the College.

This was a strong connecting link to Mr. Kirby with the University; it induced him to take an increased interest in

all its proceedings, being many ways still the counsellor of his friend, and rendering him material assistance in the discharge of various duties. In the year 1812, Mr. Kirby paid a visit to the Master of Sidney. The journey was like to have been a disastrous one, as the accurate journal kept upon the occasion informs us. "As we drove in at the Blue Boar Yard, I did not observe the arch, and it struck my head with great violence: had I been a little taller I must have been killed: but a merciful Providence preserved me from death." This accident, added to the annoyance to which his friend had been subjected a short time before, marred much of the pleasure of his visit. Medical assistance was found requisite, and confinement to the house was strictly enjoined. The world, perhaps, were gainers by this imprisonment, for the library was his solace, and many extracts were made from observations in various branches of natural history, precisely of the same character as those which we meet with in Mr. Kirby's own works.

The annoyance which Dr. Davie experienced arose from the fact of an attempt having been made to burn the College: the fire was providentially discovered in time to prevent much damage. "Conjecture," Mr. Kirby remarks, "is at a loss to account for this, but I cannot help suspecting that fanaticism is concerned in it."

A few days' quiet restored Mr. Kirby so far as to enable him to attend the College Chapel: he remarks, that "the young men seemed attentive, but the Chapel reader omitted the Exhortation, Absolution, and Creed,—which disgusted me." Another entry upon the same day tells us, "Dr. Marsh, Mr. Keene, a gentleman who had resided in India, but now an undergraduate (a very well-informed, agreeable young man, and apparently of excellent principles,) and Dr. Pettiward, with myself, and the Master, made our dinner-party. Dr. Marsh was full of conversation, and it principally turned

upon the Bible Society, and similar subjects: he was extremely interesting and entertaining." The subject of the Bible Society was one to which Mr. Kirby had paid much attention, from the great importance which he attached to weighing and sifting, not the motives alleged nor the intentions of the well-disposed who supported it, but the secondary and ulterior motives of some of its leaders, who were hostile to the order and discipline of the Church, which they thought by covert means to subvert. A correspondence with Mr. Norris in the year 1811, upon the establishment of the National School Society, led to a discussion, also, upon the probable result of the combination of members of the Church with those who opposed its rules, and despised its formularies, under the plea that the union was made for the purpose of disseminating the Bible. Of all the writers who came before the public upon this question, few made use of stronger arguments, none wrote in a purer strain of Christian charity, than Mr. Kirby. Upon this point, as well as upon that of educating the children of the poor in religious principles, he was very earnest and zealous.

Mr. Norris, in a letter dated December 27th, 1811, says:—

"Your view and mine of the Bible Society are precisely in unison. I had occasion to express my sentiments about two months ago upon it to a friend I wished to undeceive, and I have been particularly struck with the similarity.

"Your printed letter, received this day, is very much to the point, and cannot fail to do good by an extended circulation. I do not know any one who would do that service to the Church which you point out in your second letter, better than yourself, and though you may say you possess not that eminence you deem necessary to give currency to your conceptions, yet I beg you to be informed that your retirement does not keep you in obscurity. No sooner had I received your first letter at the Bishop of Ely's, than the Bishop of Carlisle

said, I do not know any one who could have written that letter but Mr. Kirby: so turn your thoughts to this subject, and do what you can."

Another letter from this gentleman, dated March 5th, 1812, shows that Mr. Kirby was one of the chief promoters of the Diocesan branch of the National School Society in Suffolk:—

"The success that your last letter reports to me is the best proof that can be afforded that your measures have been well concerted: that the Committee which you have been so sedulously attending has been a conclave of able men, and that they have been indefatigable in their exertions."

Mr. Kirby's letters on the Bible Society appeared in the form of pamphlets, or were inserted in periodicals, under an assumed name: they were free from bigotry, as well as from personal invective; there was no trace of a disposition to take advantage of facts, whether established or not, unless they fairly rose out of the question itself. One of his chief opponents was a clergyman, much respected in his own neighbourhood, and with whom Mr. Kirby was personally acquainted. Notwithstanding the length of the correspondence, and the firm adherence of each to his own opinion, the disputants retired with a mutual feeling of respect each for the other. Under this point of view, quite apart from the question as to which side was supported by truth, there was something highly edifying in the manner in which the controversy was conducted.

The published works of Mr. Kirby bear ample testimony to his being an accurate observer of facts which came before his notice. The first methodical journal which he kept appears to have been in the year 1804, entitled "Calendarium Physico-Meteorologicum." After a time, when the observations on natural history increased, they were

separated from other events of a more general character. These latter, however, together with the notices of the barometer and thermometer, were duly entered. It would be well if all ordinary matters were viewed in the same spirit as that evinced in these journals, which were kept in the same form for upwards of thirty years. The memoranda were always written in Latin, interspersed with passages in Greek, occasionally in Hebrew,—depending in some measure upon the nature of the subject referred to. Some entries are in a playful style,—others, though in juxtaposition, in a devout and religious tone,—presenting a pleasing picture of a mind in which piety and its attendants—peace and joyousness of heart—were happily united.

In the entry on the first day of the year 1814 is this :—

"Annum vitæ meæ quinquagesimum et quartum plusquam vidi. In ultimi anni cursu mors abripuit quatuor amicos, nobis etiam consanguinitate conjunctos—Mariam nempe Davie, Luciam Harris, Johannem Davie, S.T.P. Coll. Sid. Sus. Magistrum et Academ. Camb. Procancell. nuperrime, et Marthaam Ripper uxoris meæ matrem : omnes, ut opinor, Christi discipulos, et inter beatos nunc felicissimos. Annus forsan quem nunc ingredimur nobis feret vitæ finem. Da nobis igitur Domine sic vitæ cursum dirigere, sic mores ad normam legis tuæ ordinare, ut per Dominum J. nostrum possimus iis charissimis qui nos antecessere iterum conjungi. O si possim desiderium cordis mei attingere et istam veræ vitæ fontem accipere, tunc per portam mortis volens transgrederer..... Dies frigida valde et pruinosa : ventus lenior. Per totam fere diem rationes collegi et supputavi et chartulas in ordine posui.....

"Jan. 2. Literas hodie accepi ab amicorum amicissimo Rob. Tunstallo, valde asthmaticus ille est etiam a juventute. Vir intaminatæ probitatis, et valde beneficus, Deus illi det gratiam vitæ veræ et spiritualis, et faxit ut in illo mundo ἐν τῷ κολπῷ τοῦ Ἀβραάμ, παραδείσῳ ἀληθινῷ, intrare nobis ambobus detur. O Deus æterne, succurre mihi quam citissime, ni moriar ; da mihi voluntatem rectam, ut tua jussa et mandata exequi volens possim. Ad Irenæi lectionem me convertō—Homerus Irenæo familiaris. Mens mea indies magis atque magis de veritate anxia et solicita est, et valde exopto me ad

ejus persecutionem ab omni pondere seculi liberatum omnino dare. Deus meus et Jesu, πηγὴ αληθείας ἥλιος ἀληθινὸς φωτὸς, da mihi tempus, et opportunitatem et libertatem, ut omnibus seculi ponderibus repositis et amotis, et amore veritatis me omnino dirigente, ad ejus puram et non fucatam agnitionem attingere possim; et ad alios claram facere. Ecclesia Anglicana ut mihi videtur est vera petra Domini, et ejus dogmata pure et sincere ex sacris Scripturis deducta. Disciplina etiam Apostolica ut et Regimen ejus.

"Dies Lunæ, Jan. 3.—Infelix A. Spooner valde est hypochondriaca. Deus det illi consolationem in Christo διά τοῦ ἁγιοῦ πνεύματος. Prudentiam Hall vultu læto gaudens vidi,—semper enim infirma est, sed nunc absque strepitu et discordia vitam degit in quieta sylva, cujus sub umbra taberna ædificatur.

"Dies Martis, Jan. 4. — Ad directorum Domus Industriæ consessum inter nives processi. Preces Deo feci pro fæmina valde ægrotante et fere in mortis limine. O Deus, ut præbeas misericordiam ad illam magnopere peto et rogo per Dominum Nostrum Jesum Christum. Da illi vitam spiritualem si tibi bonum videtur illam ab hoc mundo removere. Amen.

"Ventimolæ vela tandem circumvolantur.

"22 Jan. — Carolus servus meus cui multum benefecimus me hodie monuit quod ad mensis finem me relicturus est. Ingratus certe τὴν ἀγάπην æstimare non novit.

"27 Feb.—Tipulæ hodie in aere ducunt choreas. Aranea movens in glacie sed valde torpida videbatur.

"12 Mart. — Puellas apud Domum Industriæ valde objurgavi. Omnem gregem inficit ovis unica scabiosa. Deus ab illis eradicet omnem corruptelam et mentis et corporis."

Several of the entries of this year inform us that Mrs. Kirby was more or less in ill health: that of the 21st of June shows how completely this event had absorbed Mr. Kirby's mind:—

"Uxore adhuc morbo periclitante; 4 dies et noctes cum illa solus fere desperatus mansi..... Morbus lenior fit (June 17) et usque ad hunc diem pergit paululum convalescere. Deo et Servatori nostro ago gratias quam maxime fervidas prò hac ejus bonitate et misericordia. Fac illam precor, Deus, omnino penitus convalescere, et da mihi gratiam tuam vota mea exequi. Illa enim mihi est, ut nunc expertus scio, auro et gemmis pretiosior."

Dr. Davie, whose death is recorded at p. 261, is described by his contemporaries as a man of learning and piety; from papers which he has left behind him it is evident that he imbibed many of the excellent habits of his friend and preceptor. Upon Mr. Kirby now devolved the task of executor; as a private individual Dr. Davie's affairs were simple, but somewhat more intricate from his official connection with the University.

The death of good old Mrs. Ripper was perhaps a yet greater source of sorrow to Mr. Kirby: in her he had lost a bright example of patience and submission to the Divine will, constantly moving before him. She had been blind for the last ten years of her life, during which period it had been Mr. Kirby's duty and pleasure, in conjunction with her daughter, to administer to her comfort and to ease her burden. So effectually was this done, that it was a favourite observation of Mrs. Ripper's, that she was thankful that God had seen fit to deprive her of her sight, rather than of her hearing: for that the loss of the former was to her but trifling in comparison with the contemplation of the loss of the latter.

These domestic sorrows falling upon one with a heart full of tenderness and sympathy, will well account for the almost total cessation of correspondence on Natural History, or upon subjects of general interest at this time.

It was in the latter part of the year 1814 that it was the will of God that Mr. Kirby should drink yet more deeply of the cup of sorrow, by the removal of a wife fondly loving, and not less tenderly beloved. Mr. Kirby's journals (though interrupted as the sad reality approached) show how well his mind was prepared for this heavy dispensation; so that when it came he bowed with Christian resignation and submission.

The character of this excellent lady it is beyond my

province to delineate: letters exist filled with her praise, and some of those who knew her well yet remain to bear testimony to her amiable disposition, her universal charity, and benevolence. Mrs. Kirby died December 13, 1814, in the 53d year of her age.

The name of Kirby being so inseparably connected with that of Spence, it may have caused some surprise that this latter gentleman has not hitherto been mentioned, especially as Mr. Kirby, in the year 1809, in one of his published papers expresses his obligations to his friend "whose eye nothing escapes." It would have been, indeed, an unpardonable omission to have passed over one, who, from his earliest acquaintance attracted Mr. Kirby's attention and gained his esteem, had there not been sufficient ground for so doing. A reason most ample will be found in the following pages, in which Mr. Spence has kindly undertaken to give a complete history of the progress of the "Introduction to Entomology," and at the same time to make such extracts from his correspondence with Mr. Kirby as may appear interesting to the reader. It is impossible for me to express the gratification that it affords me, that this very interesting and important part of Mr. Kirby's life should be treated of by a warm admirer and generous friend, who at the same time is possessed of talents and information which pre-eminently fit him for the task.

CHAPTER XV.

Mr. Kirby's acquaintance with Mr. Spence.—Origin and progress of the "Introduction to Entomology."

It is with a mournful pleasure I contribute to my friend Mr. Freeman's Life of Mr. Kirby a slight sketch of the history of our friendship of nearly half a century, and of the origin and progress of the "Introduction to Entomology," the source of so much interest and delight to us both, partly from recollection, but chiefly from Mr. Kirby's letters to me during that time, and from mine to him.*

* These letters, with which Mr. Freeman has furnished me, are between four and five hundred in number; and those from Mr. Kirby, which I have preserved with as much care as he had mine, are nearly as many. About half of the two series of letters refer almost wholly to entomology and our book, but a great part of the remainder, exchanged during my eight years' travels and residence on the Continent, and after my return to England, are more occupied with accounts of our tours, &c., and of domestic matters. Our entomological letters, in those days of dear postage, were mostly written on sheets of large folio paper, so closely, that each would equal a printed sheet of sixteen pages of ordinary type. These we called our "first-rates," or sometimes "seventy-fours," the few on ordinary-sized paper being "frigates;" but one I find from Mr. Kirby, which he calls the "Royal Harry," written on a sheet nearly the size of a *Times* Supplement, and closely filled on three pages, and which he begins and concludes thus:—"Barham, March 23, 1816. My Dear Friend,—This doubtless will be the greatest rarity in the epistolary way that you ever received. I hope it will long be kept among your κειμηλια and be shown, not as a black, but as a black and white swan, which since the discovery of the former in N.S.W., must be held as the true *rara avis*..... And now, having manned this *Royal Harry* with

Our acquaintance began in this way. Chancing, one evening, in August 1805, when walking on the Humber bank, to meet my friend George Rodwell, Esq., then a resident at Hull, he told me he was about to visit Barham in a few days, and said if I had any insects to send to Mr. Kirby he should be happy to convey them. This offer I gladly accepted, and prepared a box, which was taken by Mr. Rodwell, along with a letter, which is placed first in Mr. Kirby's packet of mine of 1805, and which it is necessary to give here to make his reply intelligible.

"Drypool, Hull, 26th August, 1805.

"Sir,—Your friend Mr. Rodwell, knowing me to be a smatterer in that branch of natural history to the advancement of which, in Britain, you have so largely contributed, told me the other day that he was about to visit your neighbourhood, and said he would be glad to convey to you any duplicates of insects I might have, that I judged might possibly be new to you. I embraced his offer with pleasure, and I have accordingly sent a few insects which I have reason to think scarce, or not described in 'Entomologia Britannica.' If they are already known to you, as perhaps the major part are, I must beg you to take the will for the deed. Such as are new, if any be so, I request your acceptance of, as a small return for the high gratification I have derived from the perusal of your admirable papers in the 'Linnean Transactions,' and the introduction to your 'Monograph of English Bees.' From that work itself I have not been able to derive the advantage which I have no doubt I shall reap from it when I have made a greater progress in entomology. At present, the order Coleoptera, to the investigation of which Mr. Marsham's excellent

as large a complement of men as I could muster, I shall launch her. I question whether ever one of equal tonnage before crossed the Humber." With the love of order which Mr. Kirby's study of natural history had so deeply implanted in him, all my letters are folded across the sheet, so as to be of the same breadth of about two inches, and have an index on the back of each, referring to the various subjects (often 15 to 20) of the letter, which he marked in it by large figures in brackets, so as readily to catch the eye; and they were then docketed with red tape into a packet for each year.

work, including so many of your discoveries, affords such facility, exclusively engages my attention. But I proceed to my immediate object, which is, to make a few short remarks on the insects I send.

"No. 1 is a *Curculio* belonging to Section A.b.** in E. B., which I do not find described there. I found it the other day in great numbers, feeding upon young oak trees, the leaves of which it corrodes in the same manner as *Chrysomela vitellinæ*, &c. do those of willows. From its habitat, it should be *C. ferrugineus* of E. B.; but as neither its head, rostrum, nor knees are black, it cannot be that, and there appears to me no other in the Section with which it at all accords. *C. rufus* I have, which is very different. May it not be *C. Betuleti* of Panzer's 'Entomologia Germanica?' which is the more likely, as I did find a few of the same insect upon *Betulus Alnus*, in the neighbourhood of the oaks upon which it chiefly was. It also strikes me that it, as well as Panzer's *C. Betuleti*, may possibly be *C. Quercus* of Linné, if that properly belongs to the *Saltatorii* section, which Fabricius seems to believe by his synonyming it with his *C. Viminalis*, for I do not believe that *C. Quercus* of Linné, which is 'pallide flavus,' even though belonging to this Section, can be synonymous with *C. Viminalis*, which, if that be, and doubtless it is, *C. rufus* of E. B., is of a rufous colour, with the fore part of the *abdomen*, as well as the eyes, black. Fabricius appears to me extremely lax in his definition of colour; at least, if the insects he describes from, be of the same colour as English ones. Neither *C. Alni* nor *C. Viminalis* are of a testaceous colour. *C.* No. 1, when first caught, has, in a certain light, a large triangular spot at the base of the elytra, of a lighter shade than the rest.

"No 2, which has also incrassated hind thighs, appears to me undescribed in E. B.: indeed, if I am correct in my supposition, it does not belong to any section there; for, as far as I can see with the deepest magnifier I possess, its antennæ are not *broken*, but entire, though of this, owing to its minuteness, I am not positive. However that may be, I see no *Curculio* in Section A.b.** of E. B. which, like this, is wholly black, with reddish antennæ. I found it on some species of willow, and then on *Mespilus Oxyacantha*.

"No. 3 is doubtless *Curculio variabilis* of Fabricius and Panzer. Whether Mr. Marsham had not seen it, or he deemed it a variety of *C. nigrirostris*, I know not, but it is not described in E. B. That it is a variety of that I can scarcely believe, though Paykull, on his usual plan of making as many varieties as possible, chooses to consider it so. I sent lately to Mr. Marsham, who has honoured me

with a letter, ten or twelve *Curculiones*, which I am not able to name from E. B. Perhaps some of them are new, but I have no duplicates.

"Before I found the true *Dytiscus recurvus*, I had called, though in great doubt, No. 4 by that name. As it is not that, I see nothing in E. B. which it can be. *D. lineatus* I have; and though its *lineæ* are somewhat like those of that, yet the two-lobed spot on its thorax, and ferrugineous abdomen, sufficiently distinguish it.

"No. 5 is doubtless *D. flexuosus*. It is not unfrequent here; and as it appears from E. B. not very common, I send a couple of specimens.

"Mr. Marsham tells me he has not *Hydrophilus Cicindeloides*, and as this may be the case with you, I send a specimen. It is not very uncommon here. Is not this *Elophorus elongatus* of Fabricius, with the description of which it appears to me wholly to agree?

"I send a specimen of *Carabus purpuro-cæruleus*, which, from there being a local habitat to it in E. B., I conclude rare. I have found five or six specimens of it in a particular clayey bank.

"No. 6 is so much like what I call *Carabus littoralis*, except in wanting the maculæ at the base of the elytra, that it can hardly be considered other than a variety of that; yet I never found it in company with *C. littoralis*, nor, indeed, any where but on the shore of the Humber, where it is not very common, and I never found a single specimen of *C. littoralis* near to this habitat.

"No. 7 is a small *Carabus*, which I also find on the banks of the Humber, and only there. Its truncated and smooth, or most obsoletely striated elytra, so obviously characterise it, that I have little doubt of its being undescribed in E. B.

"No. 8 is so exactly like *Carabus marginatus*, except in wanting its testaceous margin, that I imagine it is merely a variety of that.

"No 9 (1, 2, 3), though differing considerably in colour, are, as you will at once perceive, the same insect, which is common under clods of earth on the shores of the Humber, in company with a species of *Oniscus*. Elsewhere I have not seen it. I at first imagined the testaceous specimens (No. 1), which are most numerous, had been but lately disclosed from the chrysalis; and to determine this, I fed and kept alive one of them for a month, but at the end of that period its colour was not altered. The punctulate pilose surface of these *Carabi* furnish characteristics not very common in this genus; yet I am uncertain whether any one of the varieties be described in E. B. No. 2 agrees, in colour and several other respects, with *C. echinatus*, but its elytra are not 'punctato-striate,' but striate,

with puncta in the interstices. No. 3 would do pretty well for *C. punctulatus*, but its feet are not of the same colour as the abdomen, and no mention is made of any pubescence on the surface of that. All the specimens of No. 9 which I have examined,—and I have observed many,—are furnished with a very good characteristic, independent of colour. They have (like *Carabus tibialis*) *no abbreviated striæ next the suture at the base of the elytra.* I send several specimens of this for examination: you will at once know whether it is new or not.

"No. 10 I have called *Carabus foraminalosus*, but with some hesitation, for neither does the colour altogether accord, nor can the striæ be called 'sub-obsolete,' according to my idea of that term. In its punctulate and sub-pubescent surface, as well as colour, it agrees with the fuscous specimens of No. 9; but its greater size, abbreviated striæ next the suture (as is usual in this genus), and shorter impressed line on the thorax, afford sufficient discriminations. It inhabits a particular clayey bank near us, on breaking lumps of which you may often find it in oval holes, in the inside of them, apparently just excluded from the chrysalis.

"Nos. 11 and 12, though extremely common, I am not able to refer satisfactorily to any in E. B., and I therefore send them, though I have no idea but that they are well known to you.

"My friend Mr. Watson informs me that you are writing a Monograph of *Staphylini*, which I am extremely glad to hear, as my little experience has convinced me that there are many English ones yet undescribed; and, in a genus where so many species are of the same colour, long and full descriptions are peculiarly requisite. All the unnamed specimens I had of this genus I sent to Mr. Marsham, and if he finds any likely to be new to you, he will doubtless send them to you. I herewith enclose a few specimens. I shall be glad if any of them are new to you: if not, you will oblige me by returning them, *named*, by Mr. Rodwell, for my information.

"No. 13 I have called *S. obscurus*. It is common on the shore of the Humber.

"No. 14 must be *S. cruentatus*, not uncommon here. I send these two, because of their having local habitats given them in E. B.

"No. 17 is not uncommon here, but I can find no one in E. B. with which it accords well. The remaining *Staphylini*, chiefly minute ones, I have not particularly examined, and probably many of them are described in E. B.

"No. 18 is a *Cassida* which I took some months ago, but I forget where. I am doubtful if it be described in E. B. With the specific character of *C. similis* it perfectly accords, but not with the size or the description, for neither is the thorax longitudinally elevated, nor are the feet pallid,—the thighs, except the apex, being wholly black. Can it be your *C. liriophora?* yet I see nothing of the macula and black puncta you mention. This I shall be able to determine shortly, as I have at present by me two or three of the pupæ of, I expect, your *C. liriophora*, which I have found and fed, as you direct, on *Carduus arvensis*.

"*Scarites thoracicus* of Illiger's 'Käfer Preussens,' I have found abundantly in the dried-up mouth of a pond, along with *Heterocerus marginatus*. Mr. Marsham tells me he has had it sent him, perhaps by yourself. I send, however, one or two specimens.

"As Mr. Marsham mentions the place where, and person by whom, *Coccinella* 18 *guttata* was taken, I presume it is not found by every entomologist every where, and I therefore send a specimen. Its habitat is *Pinus sylvestris*, from different trees of which I shook, the other day, five or six specimens.

"This ends my list of duplicates of insects in my possession that there is a possibility of being new to you. I am sorry it is not in my power to send a greater number.

"Since I began my entomological career, which is within these six months, I have stumbled on a few insects to a certainty not described in E. B., viz. *Donacia appendiculata* and *Carabus spinilabris* of Panzer, 'Faun. Germ.,' and *Carabus dorsalis* and *C. discus* of Fabricius, 'Ent. Syst.' Of these I have not duplicates, and I have sent them to Mr. Marsham. Since I wrote to him, I have found four or five specimens of *Carabus elevatus* of Fab. 'Ent. Syst.' No. 166 (not 33, which very absurdly has the same trivial name). One of these, No. 20, I enclose. Whether these have been found by any one else since the publication of E. B., I am ignorant.—But I hasten to conclude this long letter.

"I am, sir, respectfully,

"Your most obedient servant,

"WILLIAM SPENCE."

To this letter I had the pleasure of receiving the following reply from Mr. Kirby:—

"Barham, Nov. 30, 1805.

"Sir,—When your obliging letter and box of insects arrived here I was in London, and did not return till towards the middle of October, when Mr. George Rodwell had left Suffolk, or I would, if possible, have returned your box and an answer by him. Since that time I have been so busily engaged, principally in preparing my paper upon the genus *Apion* for the press, that I have not had time to consider the contents of the little box you were so good as to send. Having now despatched that business, and besides having an opportunity by a private conveyance of getting this as far as Pocklington in Yorkshire, I shall at length endeavour to answer your queries as well as I am able. Your letters to my friend Marsham, of which he had indulged me with a sight, excited in my mind a strong inclination to correspond with a naturalist who from his very outset seemed to enter so deeply into the subject,—who, so far from falling into the errors usual with beginners, determined his species with the judgment and precision of the most experienced naturalist. But I leave prefacing, as I have but little time allowed me to prepare my letter.

"1. Your *Curculio* No. 1 I have long been acquainted with, and have always taken it for the *Curc. Quercus*, Linn. The description in 'Faun. Suec.' mentions the triangle observable in certain lights at the base of the elytra. A correspondent of mine in Sweden, to whom I sent it, writes me word that it is certainly *C. Viminalis* of Fabr. and Paykull. I have not Panzer's 'Ent. Germ.,' only his 'Faun. Ins. Germ. Init.'; therefore I cannot say whether the insect in question appears to me his *C. Betuleti*.

"2. The specimen sent me is *Curc. Avellanæ*, Marsh.: it has black antennæ. That taken upon the willow, which I once found here, is *Curc. Saliceti* of Fabricius. It is distinguished by a white scutellum, rufous stalk to the antennæ, and rufous tibiæ. In both these species the antennæ are broken, though the first joint is not so long as is often the case; but the insects being very minute, it is not easy to unfold the antennæ, and they usually are so closely folded as to look as if they were inserted at the base of the rostrum, and were unbroken; but I have specimens of both, with the antennæ unfolded.

"3. *Curc. variabilis* of Fabr., doubtless; but I think Paykull right in giving it as a variety of *C. nigrirostris*. What hairs are left upon the elytra are green, and the colour of the substance of the elytra in *nigrirostris* is rufous. *C variabilis* is probably a late-disclosed specimen. I have it from Sweden of all shades.

"4. It comes very near *Dytiscus lineatus* of Marsham, but may be

distinct, unless, as is probable, it is a sexual variety. My specimen of *D. lineatus* is a female, and No. 4 is a male. Neither of these is *D. lineatus* of Fabr. and Payk., which I have from Major Gyllenhal, my Swedish correspondent. I have only a single specimen of *D. lineatus;* one more I took and gave Mr. Marsham. No. 4 I never saw before; for the specimen you sent Mr. M., as this variety, was a black-abdomen'd one.

"5. *D. flexuosus*, E. B.; *D. pictus*, Fabr. Payk.; *arcuatus*, Panz. xxvi. 1?

"6. *Carabus.* I think, with you, that this is only a variety of *C. littoralis.* I had not seen it before. Observe, that most of these little *Carabi*, which we find in moist places, are of a different habit from the others. They come near to *Elaphrus* of Fabr., and are reckoned as such by some authors, but I think they would form a distinct genus. I had named it *Ocys* (Gr. *οκυς, celer*), but Latreille has called it *Bembidion* ('Hist. des Crustac. et Ins.' Vol. iii. p. 8, and vii. p. 232). The exterior palpi are exactly those of *Cicindela flavipes* (*Elaphrus*), and so are their habits. The last joint but one of the former is incrassate, and the last very minute and setiform. To this genus belong 51, 52, 53, 54, 56, 57, 73, 75, 77? 80, 81, of 'Ent. Brit.'

"7. *Carabus truncatellus*, 'Ent. Brit.'

"8 is, I think, distinct from *C. marginatus.* It is more shining; proportionally shorter; the legs are entirely black, and the hind-legs not so long in proportion. I take it to be *C. viduus*, Panz., or very near it, or perhaps a variety of *C.* 8 *punctatus*, Marsh.

"9 (1). *C. punctulatus*, E. B. I think from a memorandum I made as to that insect, *Corpus parum villosum.* It is doubtless only a variety of 9 (2, 3).

"9 (2, 3). *C. echinatus*, E. B. *C. pubescens*, Payk. I have found it more than once near the salt-water rivers, *sub alga.*

"10 is *C. puncticollis* of Paykull. It is certainly similar to *C. foraminulosus*, but it is smaller and blacker, the thorax something shorter in proportion; perhaps it is the male, in other respects they exactly resemble each other. Sub-obsolete may be rendered between striæ that are of the usual depth and those that are but just visible: it is an indefinite term, and must be taken indefinitely. In my specimens of *C. foraminulosus* the striæ are as deep as they commonly are in this genus.

"11. *C. apricarius*, Fabr.

"12. *C. nigriceps*, 'Ent. Brit.'

"20. *C. elevatus* is *C. unifasciatus*, 'Ent. Brit.' It is scarcely *C. elevatus* of Fabricius, who says of his, 'Statura et magnitudo omnino *C. crux minor*.' *C. crux minor* is of a different shape, and larger. This insect is very scarce.

"13 is, I believe, *Staph. punctulatus*, 'Ent. Brit.' It is not *S. obscurus*. The punctula upon the head and thorax of this latter are more numerous, and there is an impunctate line observable on the thorax. In *punctulatus*, too, the head and thorax are *nitida*, but not so in *obscurus*.

"14. *St. cruentatus*, 'Ent. Brit.' *St. glabratus*, Gravenhorst, 'Insect. Micropt. Brunsvic. p. 178, No. 38.'

"15. *St. tricolor*, Fabr. var.? not of Marsham. *St. tricolor*, 'Ent. Brit.' is *Pæderus melanocephalus* of Fabr.

"16. I have this for a variety of *St. linearis*, 'Ent. Brit.' *St. punctulatus*, Gravenhorst, No. 37.

"17. *St. pyrrhopus*, Mihi.

"18. I think this is merely a small variety of *Cassida similis*, 'Ent. Brit.' (*C. rubiginosa*, Illig. Herbst; *C. viridis*, Fabr. and Paykull, according to Major Gyllenhal). The base of the thighs is in all the specimens black. The thorax in this specimen is a little elevated longitudinally, at least anteriorly.

"*Scarites thoracicus* appears somewhat different from the species we find here, but I believe it to be the true one.

"*Coccinella* 18 *guttata*. Since that specimen was taken mentioned in 'Ent. Brit.' by my pupil Mr. Sheppard, I have found it plentifully myself.

"With respect to the other insects without a label, I find one new species of the *Staphylinus* tribe; but upon these I shall reserve myself till I return the box, into which I hope I shall have it in my power to put a few things that may not be unacceptable to you, in return for your kindness; but, having last year disposed of 14 or 1500 specimens to various correspondents, my duplicate drawer is rather poor at this time. I have received *Donacia appendiculata* from my Swedish friend, but hope you will find more, as I should be glad to possess a British specimen. It is *D. Equiseti* of Fabricius. There are a number of curious things amongst those you sent to Mr. Marsham, but I had not time to examine them all. After you have supplied him, I shall feel much obliged if you occasionally think of me, and I shall be happy to make such a return as I am able. *Carabus spinilabris*, Panz., is *C. brunneus*, Marsh., 'Ent. Brit.;' *C. rufescens*, Fabr., and *C. ferrugineus* of the Linnean Cabinet. With

C. spinibarbis, and a non-descript I have, it forms a distinct genus, but is not a *Manticora*. Latreille calls it *Pogonophorus*. Tom. 3, p. 88.

"I should be much obliged to you to give my compliments to Mr. Watson, and thanks for his obliging letter, which I would have answered by this conveyance but I had not time; but it shall not remain long unanswered. My best compliments and kind remembrances also to Mr. George Rodwell. Should you ever by pleasure or business be induced to visit Suffolk, I should be extremely happy to have the pleasure of your company at Barham for a few days. My cabinet is tolerably rich both in indigenous and foreign insects.

"I have enclosed a list of my desiderata with respect to 'Ent. Brit.' that you may not have the trouble of sending me insects that I am already possessed of. If you could do the same with respect to your own insects, I should better know what to send. I have referred above to Gravenhorst's 'Insecta Microptera Brunsvicensia:' it is the most complete work upon *Staphylinus*, Linn. that has yet appeared. And now my paper admonishes me that it is time to assure you that I am, Sir,

"Your obliged and obedient, humble servant,

"Wm. Kirby."

These two letters are given in full, as specimens of the way in which our entomological correspondence was carried on, but from the remaining twenty-seven letters which passed between us up to October 22, 1808 (most of them very long, one of mine accompanying 214 insects sent to Mr. Kirby, with remarks on them, filling sixteen ordinary folio pages, which received an answer occupying almost as many), I shall give only extracts, as the letters themselves being purely scientific would have no interest for the general reader, and not much for the entomologist, now that the points we so earnestly discussed as to identity of species, &c., have been mostly long since settled:—

"Barham, March 6th, 1806.

"Dear Sir,—After thanking you, which I do very heartily, for your kind and intelligent letter, I shall proceed immediately to business, lest I should not find this sheet long enough for what I have to say."

Then follow three closely-written pages of comments on my remarks and queries as to his observations on the insects I sent him, and the letter concludes as below:—

"And now, my dear Sir, I think you will be almost inclined to say, well here's a Rowland for my Oliver. I fear you will not get through my dissertations with so little tedium as I did yours. I beg you will never apologize to me for the queries you propose, for they lead to useful inquiries and the acquisition of knowledge, and mutually improve us in our favourite science. I shall be much disappointed, indeed, if, when you make your journey to London, you do not return *viâ* Barham; it is only going two sides of an obtuse-angled triangle; if it was time of peace, vessels are often sailing from Ipswich to Hull. From London here, is about 72 miles, Cambridge 49; you know I imagine how far it is from thence to Hull,—Lynn, probably, would be the shortest way. Pray remember me very kindly to Mr. George Rodwell, and tell him his brother and sister here are both well. I had a letter from Mr. Marsham the other day; he was well. I expect another to-morrow. I shall be glad to fill up any vacancies in your cabinet in my power, and, therefore, request your list of desiderata. I have, I suppose, the best part of 1000 Coleoptera sent by my Swedish correspondent, Major Gyllenhal, by which I am enabled to ascertain a large proportion of Paykull's insects, and I have many English you will not see elsewhere. If you collect foreign insects you will see here the best collection of foreign Hymenoptera, I believe, now in England,—without Francillon's be excepted. You see I can't willingly quit the subject of your visiting Barham.

"Darkness is coming on, and admonishes me to conclude this long epistle.

"I am, Dear Sir,

"Your obliged and sincere friend and servant,

"Wm. Kirby."

"P.S.—Do you see Sowerby's 'British Miscellany?' the Entomological part of it is now done by me. In No. 10 are figures of four very scarce British Coleoptera, viz., *Staphylinus Concolor*, E. B. (which is the true *dilatatus* of authors;) *Scarabæus pumilus* ♂ ♀ do.; *Cerambyx fulminans*, Fabr., and *Carabus chrysostomos*, E. B., which is *Drypta emarginata*, Fabr. 'Syst. Eleuth.,' *Cicindela emarginata*, Ent. Syst., and Panzer, &c. The Lepidopterous part I have no con-

cern in. There are several curious insects in the other numbers, and particularly my *Stylops Melittæ*, with which *my* descriptions begin. March 11."

In June 1806, I accepted Mr. Kirby's pressing invitation to visit him on my way from London to Hull, and spent ten delightful days with him at Barham. Five or six of these were devoted to a minute examination together of his Coleoptera, species by species, and I need not say what a fund of knowledge I derived from this inspection, accompanied by his comments, nor what a large accession my collection received from his very liberal contribution of his duplicates. Three or four days were given to an entomological excursion in his gig, to visit the shores of the Orwell, where I found many insects new to me.

From the first letter I had from Mr. Kirby after my return to Hull, copious extracts may be given, as they will be intelligible to entomologists without the letter to which it refers; and also from another containing the details of a pedestrian tour to which it alludes, which may interest non-entomological readers.

"Barham, August 11th, 1806.

"Dear Sir,—Your kind letter was particularly acceptable, as I began to feel uneasy at not hearing from you, and was thinking of writing to you when it arrived. You will, perhaps, be disappointed at not receiving a folio sheet, but this is to go in a frank with other letters, and therefore I must content myself with the usual size. To make amends I will write as small and close as possible. And now to answer the entomological part of your letter. My large *Curculio resinosus* stands in my catalogue under the name of *Colon*. Fabricius had a *Curc. Colon*, but it is now a *Rhynchænus*. Did you take many of *Hister pygmæus?* I have not an English specimen.

"..... Your frontispiece came safe: it lost not a joint either from antennæ or tarsi. I am speaking of your *Carabus Bruntoni*, under which name I have entered it in my catalogue. I feel much

concern at the unexpected death of this gentleman, and regret your loss and that of natural history..... Of *Carabus vivalis* I should be glad of another specimen or two when you can spare them..... I rejoice to find you have taken more of *Donacia Zosteræ*. Gyllenhal made *Zosteræ* and *Equiseti* as varieties, but not as sexual..... I have compared *Dytiscus frater* with *D. elegans*, and believe you are right. There is also a pair of lines of points on the disk of the elytra, yet under three glasses I sometimes think I discover these points on *frater*..... I have found no more specimens of *Curculio globosus* in our old favourite haunt, the chalk-pit. I have been there but twice since you left Barham. The first time I found a new *Pselaphus* like *Anthicus Dresdensis* (Panz. 98, i.), but with a narrower thorax, and palpi equally remarkable, and a very minute *Cistela*, nearly related to *Cistela maritima*, E. B., but much more diminutive, with the same characters exactly, except that the feet are red. This, with *maritima*, seem properly to form a distinct genus, intermediate between *Byrrhus* and *Cistela*. I also found a nigro-æneous *Omalium* (once *Acidota*), of which I had never taken but one before in the same spot. The last time I took only a black *Anisotoma*, which I had taken there once before: nothing else of consequence has found its way into my phials. Sheppard's *Tetratoma* that he finds upon the fir, of which he gave you a pair, is *Sphæridium humerale*, Fabr. 'Ent. Syst.' i. 79, 9. You remember my taking a small ferrugineous *Nitidula* upon the new pales as we went to the pit: it turned out *Sphæridium Colon* of Panzer, 84, i., but certainly not of Fabricius. Sheppard writes me word he has taken two more of *Apion nigritarse* upon *Corylus*, and above thirty *Trox Sabulosus*, under the old ram's horn, where I took three. One of the *Staphylini* which you took at Levington you left here: it proved to be *Staph. cephalotes* of Gravenhorst, and looking at my MS., I find I had referred to your cabinet for it: therefore, concluding you had a specimen, I put it in my own cabinet: if you find I am wrong, tell me, and I will send it with the rest. The *Apion* you found upon *Lathyrus pratensis* proves to be my *Apion subulatum;* that upon *Ononis*, a variety of my *Ervi*. I found a nondescript one among Mr. Hooker's parcel, which I have called *rotundicolle*, from its globose thorax. There were forty insects in the two boxes [Mr. Hooker's] that were either new or very rare.

"I am going, if stout enough,—for I have been much troubled since you left Barham, with lumbago,—on Monday next, to take the tour of the Suffolk Coast on foot, from Walton, where we slept, to Yarmouth, and hope I shall make some additions to the catalogue of

British insects, and to the collections of myself and friends. I take a fortnight for the purpose ; shall go to Sheppard's on Sunday evening, and then proceed leisurely, and return home, I believe, inland. If the weather continues as fair as it is now, the expedition will be delightful, and I shall only wish you were my *comes in viâ*, but I must go *solus cum solo Rangero*.* Poor Sheppard can't foot it so far, and there is no other *Heros entomologicus* in this neighbourhood. I wrote to Mr. Mac Leay, but he can't get out for even a single day, he says. I had a letter from our good friend Marsham not long since: he has been to visit the Dean of Rochester and Mr. Lambert (at least he was going when he wrote), but, I suppose, will soon return. I have been extremely busy upon the natural characters of *Staphylinus*, and have made drawings of the antennæ, palpi, &c., of several of my families. I have not yet determined whether it is to be *Callicerus Spencii* or *Aleochara Spencii*, the palpi come so very near the latter genus. I often wish for you at my elbow to give me a lift, when occasionally I feel myself stupid. I find it difficult to get a clear idea of the interior palpi of *Stenus*. In this drawing, *a*, is the end of the tongue, and, *b*, the interior palpi as they appear from a specimen of mine. I think they are biarticulate, but cannot satisfy myself on this point. Be so good as to examine one of yours, and give me your ideas. When you go to Ripon I shall be glad to hear of your success, and shall detail to you the result of my expedition.

"Believe me, &c."

"Barham, Sept. 24, 1806.

"Dear Sir,—I was gratified to find your tour was so pleasant and successful. Mine, unfortunately, terminated differently, and my entomological captures (of consequence) did not reach a Greek plural, being in number only *two*—one specimen of *Tenebrio cadaverinus*, Fabr., where Sheppard used to find it in tolerable plenty; and a new *Carabus*, connecting *catenulatus* of Marsham with *violaceus* of ditto. I take it to be *catenatus* of Panzer (87, 4), but am not certain, as it does not quite agree with his description. An unhappy foot had trod upon my specimen, and very much injured it. I looked, as you may suppose, very earnestly for more, but could not find one. I showed it to an intelligent gentleman in the neighbourhood, who said, if he met with anything like it, he would take it.

* His dog "Ranger."

"Now for my misfortunes. The first day of my travels proved exceedingly hot. I had at my back, under my coat, a pad called an 'Independent,' which was suspended from my shoulders and buttoned close to the small of my back. I found this friend, for a new acquaintance, much too warm in his attachment; he carried for me a double change of linen. I had, besides, ten pockets, disposed here and there about me, in which I carried, to little purpose as you find, all the *needfuls* for a Heros Entomologicus who would have a successful campaign. Hot as I was, I was so unfortunate as to be disappointed in most of my efforts to procure refreshment; and at the public-house where I proposed sleeping, the hostess could produce only a *negative* bill of fare, so that I was forced, after a long march, to content myself with bread and butter and bad beer for my dinner. Indignant at this, and being resolved to taste flesh before I slept, I pushed forward to another village, and was hospitably received and entertained by a gentleman-farmer of whom I had some knowledge. I was, however, not a little fatigued; and to add to my disasters, the next day, when I proposed walking only four miles, and going by water the rest of my day's allotment, I unluckily missed my way, and was obliged to walk eleven miles, and great part through a very heavy sand. The fatigues of these two days, and the privations of the first, brought a nervous complaint upon me, attended by a most uncomfortable depression of spirits. However, between walking and riding, I managed to get as far as Lowestoft, from whence, at the end of the first week, I started with another gentleman in post-chaises for Barham, where I arrived on the Saturday morning. I was out of order for some time after my return home, but have now recovered my usual health. I saw all the towns upon the coast I had not seen before, and every place that was worthy of notice. Thus much for my tour. I shall now begin my reply to your letter in order. [From the two closely-written pages that follow, such short extracts only are given as are likely to interest the entomologist.]

"*Staphylinus caraboides* was never before taken in England, that I know of, and I shall be thankful for British specimens. *Carabus secalis*, Payk., is certainly synonymous with your *C. Bruntoni* . . . . I suspect your *Pæderus*, like *orbiculatus*, to be different from mine, on the head of which I can discover no impunctate line . . . . Your conjecture is right, that *Carabus ochropus*, E. B., is *rotundatus*, Payk. I have both an English and Swedish specimen . . . . To your great satisfaction, I can assure you that your *Dytiscus frater* is not *assimilis* of Payk. . . . . I have observed that the puncta upon the head

and thorax of *Staphylinus stercorarius* are larger than in *erythropterus* and *castanopterus;* but with my triple glass I have not been able to see that they are ocellated: a hair arises from each, but that is also the case in *erythropterus;* so you see that the epithet lyncean belongs rather to your eyes than mine . . . I have the *Hydrophilus*-like *luridus* you mention; but I have considered it only as a variety . . . . And now, I think, I have finished my reply to all your queries, &c.; and must thank you both for the information you give me (always furnishing me with something valuable of which I was before ignorant) and enabling me to attain by putting me upon research. I shall only farther observe upon this subject, that if you do not furnish us with some valuable work upon some department of our favourite science, you will be inexcusable.

"Mr. Haworth spent a day with me about a month ago. He left me a specimen of what appears to be *Dytiscus mimimus* of Schrank . . . . He left me likewise a *Gyrinus* very like *natator*, with rufous elytra . . . . I don't recollect whether we made out the *Copris* you took at Landguard-fort. I had received one of the same species from Dillwyn, and named it *reticulatus*. I since find, by comparing it with Gyllenhal's insects, that it is *Scar. Xiphias* of Paykull, *Copris nuchicornis* of Sturm, Illiger, and Panzer, but not of E. B. . . . . I have now given you all the entomological intelligence my budget contains. A later letter from my friend Marsham tells me he had no success in that way in his late expedition. I shall hope to see something new in Norfolk, whither I am going for a month next Monday fortnight: I am sure I shall, at least, in Hooker's cabinet: so that if you write between the 20th of Sept. and the 20th of Nov., your letter must be directed to me, *Rev. Dr. Sutton's, Lower Close, Norwich.* I shall not forget to inform you of what occurs in my way . . . . I hope you will do what you hint at—take a walk Barham-way next summer. I think I could meet you on the road, at least as far as Cambridge, and accompany you here.

"Believe me, &c."

"Barham, March 22, 1807.

"Dear Sir,—I don't wonder at your surprise at my long silence; yet the reason of it is contained in your favour, for which I thank you the more, because I do not deserve it. You say—'The fact is, that for the two months succeeding my last I was so occupied with *un*-entomological affairs that I had not leisure to look at an

insect.' This has been precisely my case . . . . I have boxes of insects both from Haworth and Hooker to name, which I am afraid the owners think I have cribbed; and when I shall have leisure to look them over and return them, I cannot tell: so I trust you will accept of this my apology. In London, I went over Sir Joseph's *Staphylini;* but there was nothing very remarkable amongst them except *S. aureus*, which is of the same family with *S. murinus*, &c. I found several non-descript species in Mr. M'Leay's cabinet, which he purchased from the Leverian Museum, and one large and blue one from old Drury's cabinet. Another piece of entomological news I can tell you,—that M'Leay has purchased all Donovan's foreign insects —a most valuable addition to his collection, which in value falls not very far short of Francillon's . . . . I will now endeavour to answer your letter . . . ."

"Barham, April 1, 1807.

"Dear Sir,—Your box arrived here safe last Thursday or Friday without any damage of consequence . . . . I have looked over the contents of your box and Mr. Watson's, but have not yet had leisure to compare either with my own cabinet; but the following in your parcel at the first glance seem to me new:—No. 4, *Carabus scitulus*, No. 14, *Dytiscus scitulus*—a very pretty species. No. 19, *Haliplus mucronatus?* I have one very near it, I am sure. No. 20, *Helophorus longipalpis*, appears to me quite a new insect, and not *Hyd. longipalpis* of E. B. . . . . No. 41, *Catheretes Junci* and *nitidus*, are both new to me, except one be in Sheppard's cabinet. 44 is new to me. 76, *Curculio Geranii*, new to me as British. *Apion*, Nos. 81, 82, 93, 96, seem to me all new. 111, *Mordella picea*, new to me. 138, *Staph. fulvipennis*, new I think; 139 also, and 144. *Aleochara*, No. 160, is a very pretty species; the pile glitters like silver in certain lights. 194: I believe this may be distinct from *lævior;* 197, also, is new I think. I don't think what you have sent me as *Anthophagus caraboides* is that insect; it seems to me to come nearer to *Anth. alpinus*. There are many others, concerning which I am dubious, but shall tell you more when I can compare them with my own insects . . . . My entomological studies are pursued only between dinner and tea, so that you may imagine they do not proceed very rapidly. I am now engaged in making out the synonyms of Gravenhorst, which I find tedious enough. To save trouble, I mark in the margin of his family of *Staphylinus* the number of puncta in the thoracic series thus ⋮. I find this save some trouble, and recommend it to you . . . I have the plea-

sure to tell you that I found, after you left me, the remains of *Mordella fasciata*, E. B., which you may recollect I looked for in vain, and have put altogether very adroitly". . . . [A letter, dated July 7, of ten pages, contained observations on the 214 insects sent in the box alluded to above.]

"Holme [Norfolk], July 31, 1807.

"My Dear Sir,—Being so very near you as to discern, by the help of a glass, the Humber's mouth, it will not be so well if I do not speak a few words to you, and give you some account of what I have been doing since I left my own door." [After a description of his journey and of Holme, and of twelve insects he had taken, the letter continues:]—"But the pride and joy of my discoveries here is a new *Apion*, which I have found in tolerable numbers upon *Statice Limonium*. It is by far the most splendid and beautiful, and I think also the largest, species of the genus that I yet am acquainted with. I have already taken fifty specimens, and shall endeavour to get more. I call it *Apion Limonii*, and it will form the concluding species of my paper; and so I may well say, *Finis coronat opus*." [Then follows a description and reference to a coloured figure on the blank page of the letter.] "The figure is tolerably correct, though I know not how to give the metallic hues of the original.

"I have no further communication now to make, except that we made some inquiry whether there were any vessel going from this neighbourhood to Hull; but we could not hear of any. If we had met with one with fair accommodation, I don't know whether we should not have paid you a flying visit." . . . .

"Barham, Aug. 31, 1807.

"My Dear Friend,—At length I have gone through all the contents of your box, and that of Messrs. Watson and Simpson" . . . . [Then follow two pages of descriptions of the new *Staphylinidæ* sent him.]

"In my last I detailed to you many of my captures at Holme, ending with what I termed the pride and joy of my discoveries, *Apion Limonii*; but since that capture I have taken two insects in the same village, which are still more valuable: they are both of the *Staphlinoidei*. One of these is a *Tachinus*, of which I took a pair in putrid wood. Its peculiarity consists in its antennæ, which are uncommonly slender, with a knob at the end of each joint, and verticils of hairs, thus, as in fig. 1. [Here follow two pencil sketches.] No. 2

represents the head and thorax of an *Oxytelus*, related to *O. morsitans* and *cornutus*, but with four long horns upon the head, the two anterior arising from the base of the maxillæ and protruded before the head. It is, I think, a more curious insect than even *tricornis*, of which, by the by, I have also at last got a specimen: I took it one morning upon Mrs. Kirby's chemisette, as the ladies denominate their neck-handkerchiefs, as she was walking before breakfast in Dr. Sutton's garden. In vain I laid traps of white linen for it; I could not meet with a second, although I also placed the same attraction in the same place. I found at Holme, and in a neighbouring village, an abundant supply of *Apion nigritarse* upon the dock, the hazel, the hawthorn, the elm, &c.: so farewell my habitat, which seemed so remarkably confirmed by your taking it upon the same tree in the north.

"A remarkable event befell me last week. I had been much afflicted in the course of the week by the ear-ache (a disorder which, if you never knew, I hope you never will, and which, by the by, must apologise for any mistakes you may find with respect to your insects). Mrs. Kirby went to our party [a weekly evening one], when the mail-coach horn blew, and the coach stopped: my servant went to the gate. In the interim, a gentleman got out, met the servant, left not his name but his compliments, and he would call the following day: then again mounted and disappeared. We were all puzzled who it should be; and I thought it must be Joseph Hooker (who is coming to-night), obliged by some circumstance to ante-date his visit. I sent my man in the morning, thinking it possible the gentleman might have stopped at Claydon, to request his company at breakfast. When he came, instead of Hooker, I saw the countenance of a perfect stranger, who said his name was Peck; that he was an American, and had been at Norwich with Dr. Smith, but that he had brought no letter of introduction, and that he came on purpose to see me. Though he spoke English well, I thought his accent rather French, and his having no vouchers were unpleasant circumstances; but I thought there could be no harm in showing him my cabinet. His observations showed me that he understood the subject, and was a man of considerable information in Natural History. He promised to send me a publication of his upon *Tenthredo Cerasi*, seemed much gratified with what he saw, and professed himself greatly obliged. Upon the whole, I was much pleased with him, and it was doing some violence to myself that I did not ask him to take a bed at my

house; but his want of introductory letters and vouchers of any kind would have made that an imprudent step . . . ."

"Barham, Jan. 7, 1808.

"'Barham!!! So, then, the rector of Barham is not dead, as I imagined!' This, my dear sir, would be a very natural exclamation upon seeing a letter from me. It is necessary, therefore, that I should make some apology for not sooner sending the boxes [of insects] and for my long silence . . . . As to writing, I have been as deeply immersed in theology as yourself in political economy, so that I have not cast my eye upon an insect for months; and having nothing to write about, I did not think a letter of common chit-chat would pay the postage." . . . .

We now come to the origin of the "Introduction to Entomology," the history of which will be best given by quoting the passages in our letters referring to it.

In the three or four letters I received from Mr. Kirby in the summer of 1808, nothing occurs generally interesting. In that of October 12, after three folio pages of remarks on insects I had sent him, or in answer to queries as to former ones, he observes at its close:—

"I attend to what you say with respect to pointing out the differences between allied species, and shall do my best in that way. I think it is now time to spare your eyes, which will have some difficulty in making out this scrawl. I have heard nothing lately either from Marsham or M'Leay. 'Ent. Brit.'* I fear will never go on. A general *English* work on British Entomology I am sure would sell. Marsham could never have time to do it. *You and I in partnership* might very well, if it could be without hurting his feelings, and an

* Marsham's "Entomologia Britannica."

English work properly would not interfere with his Latin one: let foreigners afterwards, if they liked, translate it. As your time is not taken up by secular business, you could occasionally come here for a few weeks, each having specified genera and looking over each other's descriptions. I think we should show foreigners we are not so backward in this science as they imagine us to be.

"Farewell, and believe me to be,

"Yours very truly,

"WM. KIRBY."

The preceding letter was followed by another long one from Mr. Kirby, dated November 15th, wholly occupied by a synopsis of the families, and sections of his Monograph of the *Staphylinidæ*, on which he was then hard at work. My reply, dated Drypool, November 23rd, 1808, to these two and a former letter was chiefly filled by remarks on this synopsis, and on his paper on *Apion*, in the Linnean "Transactions," and by giving an outline of my proposed Monograph of the genus *Choleva*: after which it proceeded as follows:—

"I will not here attempt to reply to the whole of the three valuable letters for which I am indebted to you since my last..... At present I must only advert to two of their topics,—your hint relative to a co-partnership English 'Entomologia Britannica,' and your remarks on the Linnean cabinet. The former scheme much pleased me, for, would you think it? the very same idea some time ago glanced across my mind. I have nothing more at heart than being able to contribute to the advance of our science in this country, and in thinking on an *English* description of our insects, the only mode of effecting this, the thought has struck me, 'could not my friend Kirby and I manage such a work?' I dismissed the idea as a mere pleasing fancy, partly from the reason you allude to,—the fear that our friend's feelings might suffer, and partly because I know you are at present otherwise engaged. But really, on second thoughts, when confirmed by the similarity of yours, the plan does not want feasibility. As Mr. Marsham certainly cannot himself take any share in an English work, he could not be sorry that others undertook it, and so far from

interfering with his Latin one, it would, indeed, greatly assist the sale. On the whole, I am inclined to think your scheme well worthy of further consideration, and I think we should not lose sight of it. I should, to be sure, be but a sorry partner in the concern, but my knowledge of German might be of some use, and greater dispatch might be made by two than one. My idea is, that such a work should be published in numbers or parts, monthly or quarterly. We should thus have more time; purchasers would more easily be found; and from these, which would rather be the materials of a more perfect work than a complete 'Entomologia Britannica,' eventually a regular work might be fabricated. The greatest obstacle with me is the risk of its not paying itself. Having tasted the sweets of literary profit (I got my bookseller's account a few weeks since: my six editions of 'Britain independent of Commerce,' leave about £230 clear,—the first of the 'Radical Cause of the present Distresses of the West India Planters,' £30; the second of this last, and my last pamphlets, are yet unsettled; my expense of advertising was about £80,—what a parenthesis! pray don't hold your breath to the close of the sentence), I should not like to lose by such an undertaking, though I should not care if it only paid its way. But it is too bad to give one's labour, and lose money into the bargain. I confess I am not so sanguine as you on this head. I fear we could not expect a greater sale than König and Sims had for their 'Annals of Botany,' which did not answer. And yet, surely 250 English entomologists could be had for purchasers; and if so, by charging a good price, I think it might be made to pay, if published in parts. The best plan to ensure success would be to have a respectable bookseller engaged with one. But to me there appears a desideratum whose acquisition would greatly contribute to the success of such a work—I mean a *popular* 'Introduction to Entomology': and so long have I been convinced that this want is the greatest bar to the spread of the science amongst us, that in my solitary rambles I have sometimes occupied myself in sketching mentally the plan upon which I conceived it should be composed. If you give me encouragement I think I should be induced to give some form to my project. But it would be still better if you would become a *partner* in the speculation—and why not? I heartily wish you would let our partnership begin here. I could give you a sketch of my scheme; you could correct, add to it, or propose another. Out of both one could be made, and we might then divide the several parts between us, and finally jointly amalga-

mate them into a whole. Pray think of this, and give me your opinion.*

"Believe me, my Dear Sir,

"Ever yours,

"W. SPENCE."

* It is proper to advert here to a discrepancy between my proposal in the above letter of a *popular* Introduction to Entomology when I first started the idea, and the short account of the origin of our book in my letter to the President of the Entomological Society, announcing the death of Mr. Kirby ("Transactions of the Entomological Society, Vol. i. New Series, Proceedings," p. 19), in which the plan of giving it a popular form is spoken of as *subsequent* to a first idea I had mentioned to him, of making it scientific only. The fact is, that this was my impression both in writing our Preface (in which the plural number is necessarily used) and the letter to the President of the Entomological Society; and this impression remained until Mr. Freeman had sent me my letters to Mr. Kirby, and I had read the above extract. From it I now see, that though my first idea of an Introduction to Entomology was, as I well remember, that of making it scientific merely, but very soon changed into the conviction that a popular way of treating the subject was alone likely to fulfil my aim —that of making converts to a study which I found yield me so much delight,—I never mentioned the idea of a merely scientific Introduction to Mr. Kirby at all, but from the first proposed to him its being popular. This, in the many years which elapsed between the project of our book and the writing the Preface, as well as the letter to the President of the Entomological Society, had wholly escaped my recollection, and gave rise to the discrepancy alluded to. In fact, from the moment Mr. Kirby had agreed to join me in carrying out my plan of an Introductory work, any reference to its precise origin vanished from my mind; all my thoughts, for the many years the work occupied us, being devoted to executing and perfecting the design in conjunction with my illustrious friend, without whose aid it could not have been satisfactorily realised. And that I should thus have proposed to him, and induced him to join me in carrying out my original idea, has always been to me a subject of self-gratulation; for not only did our work, in a great degree, dispel the prejudices which had impeded the study of Entomology, and largely increase the number of its votaries, but it was of essential service to the science, by offering, under its various heads, fit opportunities for the reception

Mr. Kirby's answer to the preceding remarks was dated Barham, Dec. 17, 1808. After referring to various entomological matters in my letter, he observes:—

"As our thoughts jumped, as they say, about a 'British Entomology,' so did they as to the preparatory step—an 'Introduction to Entomology,'—at least, I had such a work in my thoughts, and had gone so far as to draw up a list of parts, and of terms applied to those parts. In order to break the matter gradually to Marsham, I have told him of our plan of an 'Introduction to Entomology.' With Mac Leay, upon whose secrecy and judgment I can rely, I have gone further, having opened to him our whole plan, and requested his sentiments, as we would both wish to do every thing as much as possible in a way not to hurt our friend Marsham's feelings. The former I expect to hear from daily; from the latter I have heard, but he took no notice of what I said about our 'Introduction to Entomology.' And now let me reply to what you say about terms, &c."

My reply to this letter is dated Drypool, Jan. 2, 1809, and six closely-written pages are filled with further comments on his proposed monograph of *Staphylinidæ*. I then proceed towards the end as follows:—

"I am quite delighted that we have been so much in unison with regard to an 'Introduction to Entomology,' and I am glad that you have broken our scheme to Marsham, and fully unfolded it to Mac Leay. Yet I fear, from the former's silence, it is not quite what he approves, though I think it might be easily proved to him that nothing would be so likely to promote the sale of his work as an elementary work on the science. I shall be impatient for Mac Leay's opinion of the scheme."

from his note-book of the numerous detached observations collected by Mr. Kirby during many years, on the economy and habits of insects, which would otherwise, in all probability, have been lost to the world; and by placing him under the necessity of extending his former studies to a much wider and closer investigation of every department of Entomology, which led to a great accession to his previous knowledge, yielding a rich harvest to the science both in our work and his subsequent ones.

In another letter to Mr. Kirby, dated January 25, 1806, principally devoted to giving my reasons for making as few changes as possible in old and generally-received entomological nomenclature, though it may not be strictly correct, I observe towards its close:—

"To turn to another subject,—our embryo 'Introduction to Entomology,'—I will here give you my ideas as to the plan of such a work, which I submit to your consideration. Tell me what you think of it, and propose any that you may deem better. The first requisite of such a work is, I think, that it should be *popular*,—that it be a book which might be read with pleasure and instruction even by those who have no intention of studying the technicals of the science. Entomology is at such a low ebb amongst us, and so many obstacles and prejudices are to be overcome in rendering its study general, that the first approach cannot be made too attractive. In this view I would throw the work into *Letters*,—a form which admits of much latitude in amusing digressions, and for which Rousseau's 'Letters on Botany,' Sprengel's recent 'Letters on Cryptogamic Terminology,' &c. are sufficient precedents. From my own experience in studying the science of botany, I know how much more pleasant it is to have the at best rather dry materials of terminology conveyed in a familiar style, and made palatable by an attractive vehicle. Having fixed on the epistolary form, the first letter I would devote to refuting objections on the score of the trifling nature of the science,—pointing out the advantages which man already derives from the insect world;—the probability of his greatly augmenting them;—the vast power of insects to injure him;—the necessity, in warding off this evil, of ascertaining them scientifically;—the pleasures to be derived from the study, &c. &c. Then I would proceed to the mode of collecting insects, preserving them, &c., which would fill three or four letters. Lastly, I would enter upon the terminology,—first giving a general idea of the system, and then teaching the terms by supposing the correspondent to have before him some very common Coleopterous species, the parts of which might be still further illustrated by a few good outline figures. In this description of parts I would confine myself chiefly to the order Coleoptera, since that alone can at present be satisfactorily studied in this country. The peculiar terminology of the other orders, a synopsis and elucidation of all the British genera (a grand desideratum), various critical remarks, &c., would fully make

up a second volume, if the first should be well received: and the interest of our pockets dissuades from risking too much at once. To the end of the volume I would add a close-printed dictionary of terms, which would be useful for reference. The above outline, you perceive, wants a deal of filling up; but this sketch is sufficient to enable you to judge of the merits of the plan. I have thought a good deal about it, and I am persuaded that some *such* plan, as far as making the work attractive is concerned, will be infinitely preferable to any dry chapter-and-verse bare enumeration of the parts of insects, like Yeats's, or even Linné's and Fabricius's immortal 'Fundamenta' and 'Philosophia.' Every body reads with avidity anecdotes of the uses, injurious properties, habits, &c. of insects; and only admit your readers through such a vestibule, you will win numbers to the science, who would have been deterred at the very threshold of mere technical discussions. Indeed, I very much doubt whether fifty copies of a work of the latter description would be sold; of the former, I am sure, five hundred might. As I look upon our 'Introduction' scheme as determined on, ought we to lose much more time in setting about it?"

Mr. Kirby's next letter to me is dated Feb. 13, 1809: and after three pages of remarks as to the expediency of retaining old and generally-used names, even though strictly not proper (as mandibulæ for maxillæ), which I had contended for, but to which he objected, he says towards the end of the letter—

"With respect to our copartnership, I do not think it is much concerned in this argument, for as our terms must be English we should do no more than mention the names of Latin writers. The plan of the work which you have drawn up in your letter, upon the whole pleases me much. I see with you the necessity of making it a popular work, and with a view to it, have been making extracts from Latreille, and have got so forward as to have written a great part of the Introductory Letter containing a defence of Entomology from all the objections that have been made to it. I think separate Letters should be allotted to the injuries and benefits of insects, another to the wonderful particulars of their history, and then the mode of collecting and preserving them. But in my opinion the part that relates to

terms should not be confined to Coleoptera,—it should take in all the orders, for which I have materials prepared from Latreille, whose Introduction will be a great help with respect to the Crustacea and Aptera, which you and I perhaps know at present little of. I want another term instead of *terminology*, which is a word of base origin, having a Latin father and a Greek mother. *Orismology*, though newborn, is a legitimate word, and I think would soon be received into good company, since he deserves it as well as Orychtology, Ornithology, and many other children of his mother λογια. . . . .

"I have had a letter from my friend Marsham the other day, containing a long philippic against our innovations, and the multiplication of genera, in which he seems to say that he gives up all intention of going further in 'Entomologia Britannica.' In my answer I gave him a further hint of our intention, by saying that besides our Introduction to Entomology, we had another plan in view, which we hoped would tend to promote the sale of 'E. B.' also, but that at present it was an unlicked cub, and therefore I should not say what it was at present. 'Tis best to break the ice gradually; for though he ought not to be displeased at it, and our works do not interfere, yet I can plainly see there is a little jealousy hanging about him. I have a great regard for him, and you may observe in my *Apion* how tenderly I have treated him when in error; and this I wish to do. In our 'Introduction' we should certainly recommend 'Ent. Brit.' to all Entomological students as the first systematical work that ever appeared in this country. I think it will be highly necessary that you and I should meet this year to settle *termini*. I hope you will be able to come here for a month or two, and then all points could be much better settled and discussed than they could by letter. If you could come between Easter and Midsummer I should be highly gratified."

Agreeably to Mr. Kirby's invitation I transferred myself to Barham in the summer of 1809, and for several weeks we were hard at work laying the foundations of our book, which conceiving to be the Letters on External Anatomy and Orismology, it was to these we first directed our attention, and before I left Barham we had drawn out a general sketch of the whole, founded on the examination of Mr.

Kirby's insects, and discussions, often very long, as to the propriety of various terms.

We had no leisure time for excursions, but as a short one we made one day led to a ludicrous adventure, which Mr. Kirby used often to refer to, and relate with great zest to his entomological visitors, its history may be here given. Mr. (now Sir William J.) Hooker was at that time staying at Barham, and being desirous to have pointed out to him, and to gather with his own hands, a rare species of *Marchantia?* from its habitat, first discovered by Mr. Kirby, near Nayland, some miles distant, it was agreed we three should walk thither, entomologising by the way, and after dinner proceed to the hedge-bank where it grew. Entering the head inn yard on foot, with dusty shoes, and without other baggage than our insect-nets in our hands, we met with but a cool reception, which, however, visibly warmed as soon as we had desired to be shewn into the best dining room, and had ordered a good dinner and wine. We intended to walk back in the evening, but as the bank where the *Marchantia?* grew was a mile or two out of the direct road, and it came on rain, we ordered out a post-chaise, merely saying we wanted to drive a short way on a road which Mr. Kirby indicated to the postilion.

When we arrived at the gate of the field where the bank was, the rain had become very heavy: so, calling to the postilion to stop and open the door, we scampered out of the chaise, all laughing, and hastily telling him to wait there, without other explanation we climbed over the gate, and not to be long in the rain, set off running as fast as we could along the field-side of the hedge, to the bank we were looking for. We saw amazement in the face of our postilion at what possible motive could have made three

guests of his master clamber pell-mell over a gate into a field that led nowhere, in the midst of a heavy shower of rain, and then run away as if pursued; and it was the expression in his countenance which caused our mirth, which was increased to peals of merriment when we saw that instead of waiting for us at the gate, as we had directed, he mounted his horses with all speed, and pushed on in a gallop along the road on the other side of the hedge, evidently to circumvent our nefarious plan (as he conceived) of bilking his master both of our dinners and the chaise-hire. When the cessation of our uncontrollable mirth had allowed us to gather specimens of our plant, perceiving through the hedge whereabouts we stopped, he also halted to watch our motions, and when he saw us run back, he obeyed our orders to return to the gate,—where we got into the chaise, still in a roar of laughter at the whole affair, and at his awkward attempt to explain away his not having waited for us there, as we had directed, and evident high satisfaction at bringing back in triumph to our inn the three cheats whose intended plans he had so cleverly frustrated, as he no doubt told his master; to whom, being too much amused with the adventure, we did not make any explanation, but left it to form one of the traditions of the inn.

To return to our book: we had found the various investigations required, so much more numerous and difficult than we had calculated on, that at the time of our separation in consequence of other engagements, we had not done anything towards the preliminary and popular portion, not having even definitively fixed what particular letters each should take; and though we had drawn up a provisional table of all the anatomical and orismological terms which the science seemed to demand, there were many of these still requiring further discussion before they could be finally adopted. To these discussions, the thirty-seven letters we

exchanged during the years 1809 and 1810 were mainly devoted, and of these I shall give two of the earliest, to serve, as in the former instance of our first Entomological correspondence, as a specimen of our way of carrying on these investigations, and to show that we spared no labour either of mind or pen to attain accurate notions on the subject. Of the remaining letters (upwards of 100) which passed between us between 1809 and 1815, when the first volume of the work appeared, a great portion of which was occupied with similar discussions, and with contributions by each to the "Letters" of the other, I shall as before quote only such detached passages, from a very few, as may be likely to interest the entomologist and general reader.

"Drypool, Nov. 20, 1809.

"My Dear Sir,—I have been long very impatient for the pleasure of hearing from you, and but that for the last month we have been up to the ears in brick and mortar, during which my time was fully occupied with looking after the workmen, I should before now have beat up your quarters; for by this time you have doubtless ended your metropolitan campaign, and are safely seated in your Barhamian hybernacula,—rendered doubly agreeable by your long absence. It is only such domesticated animals as you and I that can feel all that is comprised in the word *home*,—feelings unknown to the votaries of variety and dissipation. I take it for granted you duly received the last long letter which I sent you through Mac Leay about six weeks ago, containing divers cogitations and suggestions relative to our work, on which I long for your opinion; for having made a collection of materials for the letters I am to undertake, I wish much to make a beginning upon them: but this I cannot satisfactorily do until I have your ideas as to the *plan* we are to follow.

"As I never lose sight of the importance of putting our terms (doubtless to be *immortal!*) to the ordeal of every possible objection, I have several additional doubts and difficulties to propose to your consideration: and, first, as to the *Ilia* and *Ischia*, about which latter term I believe I said something in my last. I am now fully convinced that both terms are radically improper, both as being anatomically incorrect, and as being unnecessary. In the first place, *Ilia*

employed in the plural number, as we must often employ it, is quite incorrect, for the *Ilia* in anatomy are the *flanks* or sides of the *umbilical* region of the *abdomen*. Anatomists always say *Os* ilium when they refer to the bone of the hip. Secondly, from a careful examination of some species of every order of insects, I am now persuaded that both Illiger and we are wrong, also, in considering the *Coxa* as formed of two parts, and the Ischium as forming one of them. On the contrary, it is clearly a part of the thigh, to which it is generally closely attached by a membrane admitting only a very slight degree of motion, but perhaps never by a distinct joint. The *joint* is always between the Ilium and the Ischium, the latter serving as a sort of fulcrum to the base of the thigh, often with a hole between them for the reception of the pivot of the Ilium. If you will dissect and examine a large foreign *Geotrupes*, you will see all this very clearly. You will find that even when the insect has had its joints made pliant by being immersed in hot water, there is little or no motion can be produced between the Ischium and the thigh, which are attached to each other by that articulation called by anatomists *amphiarthrosis;* whereas there is a distinct *ginglymus joint* between the Ilium and the Ischium. It is true that in Hymenoptera, Diptera, and some Coleoptera, where the Ischia are not fixed obliquely to the base of the thigh, but *transversely*, the Ilium and Ischium do seem at first view like the two parts of one joint; but even then, as I have ascertained by examining living insects, the Ischium is still fixed to the thigh by a membrane and no joint, and the joint is still between the Ischium and Ilium. Now, such being the facts, there cannot, I think, be a moment's hesitation in deciding that it can never be proper to consider a part as forming a portion of a limb with which it is connected by a true ginglymus joint; or not to consider it as portion of a limb with which in many cases it seems truly connate, and in all others closely connected by a membrane admitting of little or no motion. It appears to me, therefore, that our Ilium should be regarded as a peculiar and distinct joint, namely, the true hip-joint; and we cannot have a better name for it than *Coxa*, which Latreille also gives to it. Our Ischium must be considered part of the thigh, and cannot, I think, have a better name than *trochanter*, which has the right of priority, and, though not strictly anatomically correct, is as near as in such cases we can expect to come: both are processes of the base of the thigh; only in man the trochanter is a mere projection of the base of the thigh; in insects, a distinct part joined by a suture and membrane. Observe, some Ichneumons have a *double* trochanter.

"I particularly wish you would examine the claw-joint of the tarsi of a large *Cerambyx*, *Leptura*, or *Chrysomela*, and I think you will agree with me that the small part of the base, though separated by a suture, is no distinct joint, but in fact a *trochanter* affixed to the claw-joint by the anarthrosis articulation, and very closely analogous to the trochanters of the thighs. To me it seems that it would be quite as proper to consider this minute basal part a portion of the *third* joint (not of the claw-joint) of the tarsi as to call the trochanters parts of the Coxæ. Attention to the *mode* of articulation (evidently a material point) will lead to another good consequence—we can thus avoid regarding this supplementary part in the tarsi of *Leptura*, &c. as a true joint, the reverse of which would sadly curtail our grand divisions founded on the tarsi; and, by calling it a trochanter, we may possibly gain some good genuine characters, if, as I suspect, the same circumstance holds good in some other tribes.

"I have been puzzling myself a good deal to discover what parts in the *postpectus* of Hymenoptera and Coleoptera are analogous to each other. I have not yet by any means satisfied myself on every point, but two or three fixed landmarks I think I have ascertained. One is, that your *Collare* ("Monograph. Apum Ang.") is not, as we have supposed, analogous to the upper part of the thorax in Coleoptera. I was made pretty sure of this in the course of dissecting several dried bees, ichneumons, &c., in which the collare always remained attached to the thorax, when the fore-feet were pulled off, and never came off along with them. But I was fully convinced from a large female ant which I took a few days ago alive. In making efforts to release itself, the fore-feet were pulled to a considerable distance from the collare, to which they were attached above merely by a dilatable membrane; but the collare was immoveably fixed to the *dorsum*, and though there is a suture between them, it was with difficulty I could separate them by dissection. Another observation which proves that the collare is no part of the thorax, is, that putting a pin under it, and endeavouring to push it off, *the wings were strongly moved*, so that their muscles must be attached to the under side of it. Now we know that the wings in Coleoptera have no connexion with the thorax. I am now persuaded that the upper side of that part in Hymenoptera analogous to the thorax in Coleoptera is rarely or never visible, the part itself being extremely thin, and wholly concealed by the collare. The question then comes—'What is the collare analogous to?' and here I confess that I have not altogether satisfied myself, but must apply to your more extensive acquaintance

with the order. Illiger says your *tubercula* are analogous to the scapularia of Coleoptera, and I am inclined to think rightly. If so, as the scapularia seem in general to be connate with the collare, or separated from it by an apparent suture, probably this part is analogous to a concealed vertical piece which I find at the base of the scutellum in a large foreign *Geotrupes*, and which you will easily see on dissection. Now, if this supposition be correct, then taking this *Geotrupes* for our Coleopterous instance, we shall see in it pretty clearly the parts to be seen in Hymenoptera (*Vespa Crabro*, for instance). Having separated the postpectus in the *Geotrupes*, we see at the base of the scutellum, first a vertical part forming a right angle with it. This I conceive to answer to the collare, which in *Vespa* is deflexed nearly in the same manner. The *tubercula* in *Vespa*, or lateral triangular parts of the collare, I conceive to answer to the *scapularia* in *Geotrupes*. (I must here observe, in order to obviate the objection that the scapularia are not placed so high up, that the scapulare is not merely the triangular white part which I mentioned to you as being present in *Coccinella 7 punctata*, but includes also another part at the base of that, the base of the true scapulare, which is divided into two portions by an apparent, not real, suture, being in a line with the base of the *peristethium*.) Next in the *Geotrupes* comes the concealed, horny, horizontal base of the scutellum; doubtless, as we have always considered it, equivalent to our *dorsum* in Hymenoptera, and the exposed or true scutellum is equivalent to your scutellum in Hymenoptera. Now comes in *Vespa* between the scutellum and your quondam metathorax, another *transverse* piece, which, as you have not named in *Apis*, I suppose is not found in them. To what in Coleoptera is this analogous? Here, again, our *Geotrupes* comes into play. If you *take off* the scutellum, you will find concealed by it at the base of the channelled *lumbi*, with which it forms a right angle, a curious vertical, square, horny plate. This seems to me analogous to the above intermediate part in *Vespa*. Lastly, in *Vespa* comes your quondam metathorax, doubtless analogous to Illiger's *interscapuliam*, or the channelled part in Coleoptera, covered by the base of the elytra. So much for the upper side. Next as to the under side of the postpectus in *Vespa*. The large dilated part between the fore and middle feet must be analogous to the peristethium in beetles. The sides of this part seem to form your *pleura*. The scapularia I have mentioned before. The *mesostethium* must be a very small part between the four hind legs, and between the sides of this and the peristethium lie two smaller parts,

which I conjecture to be our *hypochondria*. Thus I have made out, *in one way or other*, all the same parts in Hymenoptera which are found in Coleoptera, and *vice versâ*. You must decide whether rightly or not, and, as I have no hypothesis, I am perfectly open to conviction.

"I have now somewhat to observe respecting the names of these parts. First as to your collare. Though this is not the thorax, I think we should still call it collare. This term is not here absolutely improper, as it is *like*, though not in reality, a collar; it has been introduced by your 'Monog. Apum Ang.,' and adopted by Illiger, and we shall not easily find a better. In Coleoptera, of course, we shall very rarely have occasion to make use of it, but in every other order it will be of constant occurrence. *Dorsum*, I think as before, is very objectionable, from being a word of such general import, and so often improperly used for *tergum*. For this part I think we should have some word equivalent either to our good English term, after-corselet, or to *ante-scutellum*, the coining of which I give up to you, the master of our mint.

"I do not exactly recollect what parts we meant by *lumbi*, or *interlumbium*. If the former were intended for your quondam *metathorax*, I think it is objectionable, as being a plural name for one flat surface, and because in anatomy the terms apply only to the *sides* of the lumbar region; but I see no objection to *interlumbium* for this part. We still want a name for the transverse part between the scutellum and interlumbium. Might not this be the *post-scutellum*, or something equivalent? *Hypochondria*.—In referring to a system of anatomy, I find that this term, as we use it, is anatomically incorrect, the hypochondria being, in fact, the sides of the epigastric region of the *abdomen*, but though in part covered by the false-ribs, forming no portion of the *true pectus*. As we apply the term epigastrium to the base of the abdomen, it will of course be highly improper to apply a term appropriated to the sides of the epigastrium to the pectus. On this account, and as Linné evidently in *Cerambyx rubus* applied this term to the *whole* sides of the *postpectus* (which was correct according to his idea of regarding that part as the *epigastrium* —see *Contharis rufa*) had not we better drop it, and adopt Knoch's *parapleura*, which seems unobjectionable?

"I cannot guess what we meant by *Intercosta*, *Femoralia*, and *Costulæ*, though I very well remember giving those names to particular parts. But though I have since examined the postpectus of many Coleopterous insects, I see no parts but what may be referred to the

peristethium, mesostethium, scapularia, and parapleura. These, indeed, are sometimes crossed by apparent sutures, but I do not think this is a sufficient reason for dividing them into more distinct parts. Knoch's meriaeæ are clearly the hind coxæ. Of course we have nothing to do with them.

"*Squamula.*—I stumbled lately upon an objection to the use of this term in the sense you have given to it in 'Mon. Apum Ang.,' viz., that Linné had applied it to the angular elevation of *Formica*. We should certainly, therefore, have a distinct name. Illiger's name, *tegula*, does not seem very much amiss, as in Hymenoptera this part aptly enough may be compared to a little tile. Our English *base-cover* cannot be improved.

"So much for objections. Besides which I have to notice two or three things that we yet seem to want names for. 1st. Should we not have a name for the upper wing-cases of *Grylli*, &c., which being of so different a substance can scarcely with propriety have the terms elytra and coleoptera applied to them. Illiger uses *tegmina*, but perhaps a better term might be selected. I perceive in a large foreign *Gryllus*, which doubtless you possess, a curious concave shell-like process, between the claws of the tarsi, to which neither *pulvillus* nor *onychium* is applicable. What shall it be called? Would it not be very convenient to have a term signifying that the surface of any part of an insect is free from all inequality, in opposition to *foveolæ*, *striæ*, &c.? *Lævis* is not sufficient, as properly it should be restricted to denote the absence of *puncta*, *scabrities*, &c. only. Thus the thorax of an *Apion* might be *foveolate*, and yet *lævis*; and if it should chance to be neither, the absence of the former character could not at present be expressed without a periphrasis. At present we are forced to say *haud striatus*, *canaliculatus*, &c., which is contrary to the Linnean rule of not using negatives. Would *æquatus*, in English, *even*, do? . . . .

"I am, &c.,
"W. SPENCE."

The following is Mr. Kirby's answer to the preceding letter:—

"Barham, November 27th, 1809.

"My Dear Sir,—I now mean to take my revenge, and show you that I also can write a long letter, a faculty which, from your late

experience, you may begin to doubt my possessing. I shall not, however, waste my time and yours in preliminary matters, but go directly to the unanswered parts of your letters. I shall begin with your last, by saying that I admit the validity of your reasoning with respect to *Ilium* and *Ischium*, and had on the last made a note in pencil, 'melius trochanter.' But if this is considered as part of the thigh, would not a term be necessary to distinguish what is commonly called the thigh? Perhaps it would be better to consider the *trochanter* as *per se*, and so arrange *coxa*, *trochanter*, *femur*, one under the other, as primary parts of the *Pedes*. I cannot look at your letters without wishing I had been with you during your examination and dissection of insects, to have taken some of your labour off your shoulders. Your success has been answerable to your pains, and no small degree of light will be thrown upon Entomology by your discoveries and observations. I must brush up my memory a little, for I seem to have forgot the reference of many of our terms. As I go on with this letter, I propose to write the definitions of the terms of our anatomical table, which I shall then send to you for your observations.

"I admit the justice of your observations, that the joint at the base of the claw-joint in *Cerambyx*, &c., is perfectly analogous to that at the base of the thigh, but I think neither of them a true trochanter; which all the joints have independent of it. Is this an anomaly, or are we to look upon it (regarding the thigh as the tibia, with Dr. Wilmot,) as analogous with the *fibula?* I strongly suspect he is correct in this opinion, for though the fibula in large animals is parallel with the tibial bone, it seems in other respects to answer to this, and in many insects it seems to run in that direction. I have no anatomical book, so I may speak rather incorrectly, for I forget whether the name of the bone parallel with the fibula be called tibia or not. Observe—the insects that have this anarthrous joint at the base of the claw-joint have no onychium or pulvillus, or else an obsolete one. With respect to this term onychium, I must observe that it is by no means correct, for onychium signifies a little claw; now even in the *Lucanides* this little joint is terminated by bristles rather than claws, and I believe in the majority of genera it has nothing like claws. I am not wedded to *pulvillus*, which is certainly not *generally* proper, and yet one term ought to distinguish the same part in all cases. It seems to me more analogous to the ball of the foot than any other part, but *planta* would generate confusion; what think you of *plantula*, its diminutive? Now I am upon the subject of legs, I will observe that the part you notice in the anterior tibiæ of *Lam-*

prima (male) is one of the *spinulæ*. I don't recollect whether in answer to your remarks upon antennæ, and my terms *radicle*, *scape*, *stalklet*, and *flagellum*, I observed that these were not meant to be applied universally to the three first joints, and the whole of the rest, but only in cases where they are remarkable, which, I believe, are more numerous than you seem to think, for you will find in most of the Hemiptera, Neuroptera, and Diptera, that these parts are distinguishable from the rest. Take *Tabanus*, for example. How useful will the term *flagellum* be to describe the six last joints, together of so singular a shape, which cannot be described taking them joint by joint; and in *Gryllus* the *flagellum* is often *compressum*, while the stalklet and scape are nearly globose. In *Cimex* and the Neuroptera, the scape, at least, is always remarkable. We want a fourth term for antennæ, viz., *Capitulum*, to be applied to *Scarabæus*, &c., &c. I observe in *Geotrupes* that the inner spinula is moveable, and the other fixed; but whether this is so in the other orders I cannot clearly determine, but I think in *Vespa* both are moveable. I observe in *Gryllus* the plantula you mention, but the same name may apply to it.

"*Thorax* or *Collare*.—I continue to think the parts that have been known by these names in Coleoptera and Hymenoptera are analogous to each other. The collare being connected by membrane, &c., with the tubercula or scapularia, might on being taken off move them, and occasion the motion of the wings you mention. I have taken off some this morning without producing this effect. If you take off the head of a *Vespa*, it will carry the forelegs with it, and leave the collar behind; but I have just taken off the heads of several *Apes*, Ichneumons, *Melittæ*, and other Hymenoptera, and they have more generally left the forelegs behind. The thorax in Coleoptera seems to me exactly in the place of the collare in Hymenoptera. I have taken to pieces the *Geotrupes* you describe, and see the piece you think analogous to the collare; but this piece appears to me to belong to the interior anatomy, and to be part of the mediastinum, or of the strong membrane that separates this part from the pectus. *Dytiscus*, *Mylabris*, *Buprestis*, *Curculio*, all of which I have been examining, have nothing analogous to it, but mere membrane; in these large insects I suppose it is of a more cartilaginous nature. In order to make it analogous to the collare, it ought to be universal. You seem to me to have made out the analogous parts of Coleoptera and Hymenoptera extremely well; but what answers to the mesostethium appears to me not so very small, for it seems to me to extend more than half way towards the wings. The term *dorsum* might give place for *postcollare*, then we should have *thorax* and *metathorax*, *collare* and *post-*

collare, and *pectus* and *postpectus*, which would give concinnity to our terms. The part you notice in *Vespa*, as succeeding the scutellum, and to which your accurate eye has discovered an analogous part under the scutellum of *Geotrupes*, might be called *antelumbium*, or postscutellum, as you suggest. This part seems not to be separated by a suture, but only by an impressed line in *Vespa*; but a suture distinguishes it in some genera: it is not very obvious in *Apis*. By the term *lumbi* we agreed to distinguish those parts that lie on each side of the channel that runs from the *antelumbium* to the abdomen. The channel itself, which in Coleopterous insects has often an elevated line running through it, or kind of vertebræ, we called *interlumbium:* this part exactly represents the loins with the back bone between them. We did wrong when we constructed our *termini anatomici*, in not making definitions when we named them, for I forget exactly now what we meant by *femorale*, unless we proposed to distinguish by it the dilated flat coxæ of the posterior legs in *Dytiscus* and *Buprestis*. The *intercosta* was intended for a piece observable in *Buprestis vittata*, which is between the *mesostethium* and the posterior coxæ. The term *costula* was intended for a little piece which seemed inserted between the scapularia and the peristethium in the same *Buprestis;* but it is dubious whether they exist, and therefore I think with you we may strike out these terms. I see that it would be very convenient to have a term to distinguish *sides* from *edge:* in English we can say very well, sides deflexed, edge rounded. Perhaps, in Latin we might say, lateribus deflexis acie rotundata; but even this might be liable to be misunderstood, for a rounded edge might be construed to mean round instead of sharp, applying the term not to curvature of the sides. But on further consideration, it seems to me that the adverb *utrinque*, applied in this case, will do as well as coining a new word. *Thorace utrinque deflexo lateribus rotundatis*, or vice versâ, *utrinque rotundato, lateribus deflexis*, seems to me quite clear of objection. What do you think? I don't see that we have any term for the point of meeting of two joints. With respect to tibia and femur, *geniculus* will do very well; the other end of tibia and tarsus, if necessary to be noticed, would with equal propriety be denominated *calx* or heel. With respect to the point of meeting of two joints of antennæ or palpi, no term strikes me that would be proper: can you think of one, or would one be necessary? You observe we have no term for *ligula*, Fabr. We agreed to call this part *lingua*. If a diminutive for *lingua* is to be used, it might as well be used for all tongues of insects that are properly such. I think the same name

should be given to the same part in all orders; in fact, in use the ligula comes nearer to the tongue of animals than the *sucker*-tongues. *Palpi.*—I have no objection to employ this as English instead of *feelers.*

"*Ovate* and *obovate.*—With respect to the abdomen of Coleoptera, I look upon them to be ovate when broadest towards the thorax, and obovate when broadest towards the anus; and so with respect to the whole insect. With respect to the thorax, Linné seems to reverse this plan, calling the thorax in *Carabus, obcordatus.* His idea of *ovatus* is plain, from his calling *Sphæridium scarabæoides, ovatus.* With respect to the head, Fabricius makes it ovate when it is broadest at the thorax in the *Staphylini* of the family of *linearis.* The thorax of *Curculio Palmarum,* Linné makes *ovatus; Curculio Germanus* is *corpore ovato.* So that, as it should seem, the ovate body is broadest towards the head; the ovate head is broadest towards the thorax; the ovate thorax is broadest towards the elytra; but the ovate elytra or abdomen are broadest towards the thorax: the reason of this seems to be, that the apex of the elytra or abdomen must be reckoned at the *anus*; but one would think the apex of the whole body should not be reckoned as there.

"*Hypochondria.*—Having no anatomical books, I rely on the correctness of your statement with respect to its station. I thought the second cavity of the abdomen, which is analogous to our postpectus, was the region of the Hypochondria, in which case the term would be proper. I have no objection (stating our reasons *for receding* from Linné), to adopting *Parapleura.*

"*Lævis et æquatus, &c.*—We have a term (*lævigatus*), which seems to answer for this purpose, 'very smooth without elevations or depressions,' but somehow or other we have not got *lævis.* I see in the book in which I arranged Linné's terms alphabetically, we have '*lævis,* smooth, without elevations,' and '*lævigatus,* smooth, without depressions.' I suppose we then thought one term sufficient. Linné uses the term *æqualis* for your *æquatus,* it should seem, under *Tenebrio gigas* and *mortisagus.* He appears to have wanted a term of this sort when he describes *Teneb. lævigatus,* and *latipes,* for he says, '*lævis, elytris lævibus,*' to distinguish them from *T. variabilis,* which is *lævis, elytris elevato-punctatis.* If we use *lævis* and *lævigatus,* the former should signify the absence of *striæ,* channels, *foveolæ,* or *fossulæ,* and similar kinds of sculpture; and the latter, which implies a more intense degree, should denote the absence of points, granules, or any roughtnesses of surface. It would sound well to say *lævis,*

elytris lævigatis. But, perhaps, you will think three terms necessary, one for the absence of smaller inequalities, another for the absence of larger, and a third for the absence of all inequalities; then it would be *æquatus* or *æqualis*, without larger elevations or depressions; *lævis*, without smaller elevations or depressions; *lævigatus*, without any elevations or depressions.

"*Upper wings of Grylli, &c.*—The term *elytrum* is not improperly applied to these case-wings; it means merely an integument, and I don't see that any confusion is generated by the use of it. Even amongst the Coleoptera, the elytra of some are scarcely more than coriaceous, while in others they are a very hard crust. The term *elytrum* of itself does not properly convey the idea either of a corneous, coriaceous, or membraneous wing-cover, but merely of a wing-cover. The same observation holds good with respect to the *Coleoptra*, which is so convenient that it will not be easy to do without it, and it is used without impropriety, strictly considered, for when thus used it is merely saying *wing-cases* so and so. The term *Hemelytrum* is more applied to *Cimices*, I believe; *elytrum* would be proper for *Cicada*, but not for *Chermes*, *Aphis*, and *Thrips*. All that seems necessary is under each order or section to define the substance of the elytra. You seem not to have noticed the difference between the terms *Coleoptera* and *Coleoptra*. You will find, when it is applied to the elytra of individuals, it is always spelled in the latter way.

"*Squamula.*—Linné, indeed, in his generic character of *Formica*, uses the term *squamula*, but never once in his description of the species; here it is always *squama*. Fabricius and Latreille invariably have it *squama*. Linné's generic character will not be adopted, because it does not include all the species, or if it should be adopted, *squamula* would properly be changed to *squama*. I therefore see no reason for giving up my own term, which I think every impartial person will prefer to Illiger's. A *little scale* is certainly much better than a *little tile*, for the part in question; indeed, the latter strikes me as bordering upon the ridiculous.

"I am sorry to find, that in my haste in putting up the insects, for Mr. Rodwell to take, I forgot the *Scymnus* I reserved for you, and also a little *Aleochara* (*rufangula*) which I have of yours, taken when you were here, under some moss in Shrubland Park.

"Nov. 29.—I have carefully read over your excellent sketch for a plan of our work, and upon the whole very much approve of it. What we say in the first letter with respect to objections farther

than glancing at them, should be to meet and refute the charge of cruelty, which is also one great objection with the fair sex from pursuing the study. The *cui bono* objections will be answered partly when we detail the general advantages, and more fully as you propose, and have done excellently, in the 12th letter. I am not altogether of your opinion with respect to the mode of treating the *Noxæ Insectorum*, for I think the general effect will be much the most striking and alluring, if we conclude with the ravages of the locusts. We are giving a *general* view of the subject. Our Introduction is a *general* Introduction to Entomology, and if we give a particular detail of the injuries our country receives, as we should of course do, this will be sufficient to interest the reader, and will remain longest upon his mind, because always under his eyes, though we leave off with exotic depredations. Don't let us expose ourselves to the sneers of hypercritics, that we are proficients in the Bathos, or art of sinking. This is all material that I find to object to in your plan; the rest is admirable. I think the directions for taking insects, preserving, &c., should follow the technical part, for, as my friend Mac Leay observed, we should first tell our correspondent what an insect is, before we set him to catch it. From your plan, which urges strongly the placing *Noxæ* before the *Beneficia*, you seem to have imagined I had placed the latter first, but in this your memory failed you; it is always best to leave off with the fair side..... Pray tell me in your next what parts of the work, besides the History of Entomology, you would like best to do, as I shall soon set hard to work, and 'tis pity we should both gnaw the same bone. When you have gnawed your bones send them to me, and I will do the same by mine; so they will stand a good chance of being picked quite clean. I shall hope for much from you upon the *miracula*, as I have few authors to consult, and scarcely any travellers. I have never met with Barrow or Jackson.....

"Yours very affectionately,
"W. KIRBY."

"Barham, January 23rd, 1810.

[In this letter, after mentioning the severe illnesses of two near relatives at Ipswich requiring his frequent visits, he proceeds :—]

"To my great discomfort also, the business of settling the affairs

of a man who has involved himself deeply in debt, has also unavoidably fallen upon me. I hope they will be settled in another fortnight. I mention all these circumstances, that you may see that it [the delay of writing] has not been for want of inclination, but of leisure. The misfortune is, I am fitted by Nature for a contemplative rather than an active life; business, and the settlement of secular affairs, makes my head wild, and I would gladly, if possible, disengage myself from it altogether; but this is at present out of my power, so you must not be surprised if I am unable to do much for the present. This you may be sure of, when I am at leisure I will endeavour to make up for lost time."……

The above extract is chiefly given for the sake of remarking, that though Mr. Kirby's natural dispositions were, as he states, more contemplative than active, yet no man ever less suffered his inclinations in this respect to encroach on or set aside his social duties. During the long course of our correspondence there is scarcely a letter without a reference to some executorship he had to carry out for a deceased relative or friend, to some secretaryship he had to fill for a charitable or other benevolent institution, or to some active services, like those referred to in the above letter, in arranging the affairs of persons often but distantly connected with him; but all these duties, however contrary to his natural inclinations, he scrupulously fulfilled, in addition to those of his sacred office, before giving up any portion of his time to his scientific pursuits.

"Barham, Feb. 17, 1810.

"My Dear Sir,—Many thanks for your kind attention to my request to send the copy of the anatomical terms [to replace his, which he had mislaid]. I have already profited so far by it as to draw out the definitions, and have been for some days hard at work, one way or other, upon our work . . . . I shall begin with attending to your request with respect to what part of the work each should undertake. As I have made a pretty ample sketch for the three first letters,—viz. the Introductory, Noxæ, and Beneficia,—if

you approve it I will fill up the outline I have drawn up for them. Then you may take the three next,—viz. Storgé, Food, and Habitations; then to my lot again might fall 7, 8, 9, viz.—Societies, Defence, and Noises; next to you, 10, 11, 12, Phosphorescence, &c., Recapitulation, and Defence of Systematic Entomology; and likewise, if you please, the 13th, on the States of Insects, in return for my having done the 14th, General Exterior Anatomy. 15, 16, 17, and 19, Head and parts, Trunk and do., Abdomen and do., and Orismology, are already in great forwardness. 18, on the Interior Anatomy, you may take. 20, Class, Order, &c., I will take. 21, Making out insects, let Spence take,—nobody makes out insects with more accuracy. 22, Seasons, Kirby had thought about, and will take; and also 23, Haunts and Times of Flight. 24, Catching, Spence; 25, Killing, Preserving, Cabinets, &c., Spence; 26, Breeding, Kirby; 27, History, Spence; 28, Conclusion and Dictionary, W. K. and W. S. conjointly, W. K. giving terms from Linné, Fabricius's works (except 'Fundamenta Entomologia,' which K. has not an opportunity of consulting), Latreille's 'Genera Ins.,' Scopoli, Schrank, Walckenaer, De Geer, Reaumur; W. S. Illiger and the German entomologists, and 'Fundament. Entomolog.' Motions of Insects I forgot: Kirby will take. Short accounts of books, W. S. The plan that strikes me as the best, with respect to the parts which each undertakes is this—When you or I have finished a letter, or (perhaps better) the whole of our parts, I to send mine to you, and you yours to me, that each may make his observations, and give his sanction to what the other has written, and add any particulars omitted by the other that may have occurred to him. If you wish any alteration made in the above apportionment of parts, you will state it in your next packet . . . ."*

* The above extract is mainly given for the purpose of adding to it some further explanation on the subject to which it refers.

In our Preface, p. xxi. [Here, and throughout this chapter, the 5th edition (1828) is referred to] we have declined stating which Letters were written by each; and in the thirty-seven years which have elapsed since we "excused ourselves from gratifying the curiosity" to ascertain this fact (if any such were ever felt), no clue to it has been given, except the disclaimer by Mr. Kirby, in the advertisement to our third and fourth volumes, of agreeing with me in opinion on the theory of instinct in the Letter on that subject, Vol. ii.,

It will have been observed that, in our letters of Nov. 20 and 27, 1809, a discussion is begun as to what portions of the thorax (Linn.), in the two orders Coleoptera and Hyme-

and the remarks, in Vol. iv. p. 19—33: both, as he wished it to be stated, written by me.

As this disclaimer, however, has broken the charm of secrecy, and as some future ingenious entomologist may think it worth his while to endeavour, from internal evidence, still further to solve the mystery, in attempting which he would be sure to fall into gross errors, it has seemed to me best (and Mr. Freeman coincides with me) to give here the entire list of the Letters of our work which were ultimately agreed on, and which vary in some respects from that proposed above, with the name of the writer affixed to each, and such observations as are necessary to make the information correct and complete.

VOL. I.

Preface.—Mr. SPENCE.

[The two paragraphs relative to the religious bearing of the work (p. xiii. and xiv.); the first half of one at p. xvi., beginning "The authors, &c.," and one at p. xviii., beginning "Besides these, &c.," were added by Mr. KIRBY.]

LETTERS.

I.—Introductory. Mr. KIRBY.

II.—Objections answered.

The first part, to p. 39. Mr. KIRBY.

The second part, in defence of Systematic Entomology, p. 40—53. Mr. SPENCE.

The concluding part as to cruelty. Mr. KIRBY and Mr. SPENCE.

III.—Metamorphoses. Mr. SPENCE.

[From p. 72 to 77 by Mr. KIRBY.]

IV. to VIII.—Injuries caused by insects. Mr. KIRBY.

IX. and X.—Benefits derived from insects. Mr. KIRBY.

[A large proportion of the facts, and several entire paragraphs and pages in these seven letters, were furnished by Mr. SPENCE.]

XI.—Affection of insects for their young. Mr. SPENCE.

XII. and XIII.—Food of insects. Mr. SPENCE.

XIV. and XV.—Habitations of insects. Mr. SPENCE.

noptera, are really homologous. When at Barham, we had decided to regard Mr. Kirby's *Collare* of his "Monog. Apum Ang.," as he had then considered it, as the equiva-

VOL. II.

LETTERS.

XVI. to XX.—Societies of insects. Mr. KIRBY.

XXI.—Means by which insects defend themselves. Mr. KIRBY.

XXII. and XXIII.—Motions of insects. Mr. KIRBY.

XXIV.—Noises produced by insects. Mr. KIRBY.

XXV.—Luminous insects. Mr. SPENCE.

XXVI.—Hybernation and torpidity of insects. Mr. SPENCE.

XXVII.—Instinct of insects. Mr. SPENCE.

VOL. III.

LETTERS.

XXVIII.—Definition of the term insect. Mr. KIRBY and Mr. SPENCE.

XXIX. to XXXII.—States of insects. Mr. KIRBY and Mr. SPENCE.

[These four letters were originally assigned to Mr. Spence, and rough copies of them were prepared by him, extending to 120 pages of MS. in large 4to.; but, owing to his ill health (as explained in the advertisement to Vol. iii.), the accumulation of new matter required the whole to be prepared for the press by Mr. Kirby.]

XXXIII. to XXXVI.—External anatomy of insects. Mr. KIRBY and Mr. SPENCE.

[This department of the work, as has been previously here explained and in the advertisement to Vol. iii., was that to which the authors, both during Mr. Spence's visits to Barham and in their long subsequent correspondence, mainly devoted their attention; and the tabular view of the parts of insects was the very first portion of the work drawn up by them as the

lent of the so-called *thorax* in Coleoptera; but on reaching home, and dissecting many insects of the two orders, I was led to suspect we had decided wrongly; and the anatomical

result of their joint examination of a great number of insects of all orders, and of long discussions (both orally and by letter) as to their homological relations: but the more extended and connected survey of the whole subject contained in these letters was drawn up by Mr. KIRBY.]

VOL. IV.

LETTERS.

XXXVII. to XLIII.—Internal anatomy and physiology of insects. Mr. KIRBY and Mr. SPENCE.

[The explanation given above as to the Letters on the states of insects, applies equally to these seven Letters on their internal anatomy and physiology. They were originally assigned to Mr. Spence, whose rough draughts of the letters fill 125 MS. 4to. pages; but it was necessary, in consequence of his ill health, that the whole should be prepared for the press by Mr. Kirby, so as to incorporate the new facts with those which Mr. Spence had collected.]

XLIV.—Diseases of insects. Mr. KIRBY.

XLV.—Senses of insects. Mr. KIRBY.

XLVI.—Orismology, or explanation of terms. Mr. KIRBY and Mr. SPENCE.

XLVII.—System of insects. Mr. KIRBY.

XLVIII.—History of entomology. Mr. KIRBY and Mr. SPENCE.

XLIX.—Geographical distribution of insects, &c.

The first part, on general geographical distribution, by Mr. KIRBY; the remainder by Mr. KIRBY and Mr. SPENCE.

L.—Entomological instruments, &c. Mr. KIRBY and Mr. SPENCE.

facts on which my doubts rested, are detailed in the preceding letter of Nov. 20 (p. 296). Mr. Kirby, it will have been seen, in his reply (p. 301), adhered to his original opi-

LETTERS.

LI.—Investigation of insects. Mr. KIRBY and Mr. SPENCE.

Appendix.—Mr. KIRBY.

[An enumeration of entomological works, and of papers in Transactions, Journals, &c., drawn up by Mr. Spence, and extending in MS. to 126 pages large 4to., was unavoidably omitted, owing to the much greater bulk of the work than had been originally calculated on.]

I beg to conclude this long note, which assigns to each, as far as practicable, his share in the work, with a repetition of our desire, expressed in the Preface,—and which I know was Mr. Kirby's as much as mine,—that in any reference to our work we may be always jointly referred to, with two exceptions: these are—1st. The Letter on instinct (Vol. ii.), and my farther remarks upon this subject (Vol. iv. p. 19—33), on which Mr. Kirby differed in opinion from me, as he has stated in the advertisement to Vol. iii., and for taking which different view from mine he has given his reasons at large in the Bridgewater Treatise (Vol. ii. p. 222—280); and 2d. The Letter on hybernation (Vol. ii.), in which the denial of the possibility of satisfactorily explaining the retreat of insects to their winter quarters, and often the preparing of these previously, from the mere direct sensation of cold, I think it due to him to state (though he did not himself care to advert to it in the advertisement above quoted) was in opposition to his opinions on the subject, and no portion of this Letter, nor of that on instinct, was written by him. With these slight exceptions, no reference to our book can ever be justly made except in our joint names; for the chances are, that even in the Letters here stated to have been written by one of the authors, the particular facts or observations referred to (often extending to whole paragraphs and several pages) may have been supplied by the other, as perpetually occurs. It was, indeed, next to that of criticising and perfecting our anatomical and orismological terms, expressly for the purpose of thus adding to the stores of his coadjutor, that the

nion; and the discussion on this knotty point was continued at great length, by reference to dissections we had made with this view, and arguments built on them, in the eight or ten letters which we exchanged in the spring of 1810, without conviction on either side: but a letter from Mr. Kirby, dated May 14, begins as follows, with an admission that he had seen reason to come over to my way of thinking on this subject,—an admission my candid friend could well afford to make, seeing how often he had convinced me of error, and brought me to adopt his views on points on which we had differed and as thoroughly discussed as this:—

"Barham, May 14, 1810.

"My Dear Sir,—I began a letter to you before breakfast this morning upon a common sheet of paper, because I did not expect to have matter to fill a folio. I had not proceeded down one side before your letter arrived, the reply to which will, I think, enable me to eke out this 74; and therefore I shall begin anew. You probably got my letter the day after yours was despatched, which I hope set your mind at rest on that score. My object in writing again so soon was to express to you my full conviction that you are perfectly accurate in conceiving that the *thorax*, as it has been usually called, in Coleoptera is not analogous to the *collare* in Hymenoptera, and thus to

greater part of the long letters that passed between us, during the extended period employed in the composition of the work, amounting in quantity of matter, if printed, to far more pages than its four volumes, were written by each. In fact, there probably never was a work, composed by two authors, more thoroughly *dove-tailed* with the contributions of each, than ours. Our book was always in our thoughts; and our reading, even on dissimilar subjects, was constantly furnishing facts, or hints, or illustrations, bearing on the portions of each other, which were duly noted and transmitted, and most generally adopted: and, if it have merit, this is in a great degree owing to its being what it professes to be—a really joint production of two variously-instructed minds, anxious only to contribute to the perfection of their labour of love,—for such the work truly was to them,—during the many years it occupied them.

do you ample justice for that penetration and discernment which enabled you so early to make this very important discovery. Truth seemed to me at first on the other side, but the observations I have made this spring, and another circumstance, which I shall presently explain to you, have made me a convert to your sentiments. If I know myself, I love *truth* better than *opinion;* and though I may be sometimes over warm, from the natural hastiness of my temper, in maintaining what appears to me so at the time, yet I am never backward to own and embrace it, however contrary to my former opinions, when, the clouds being removed, I see it in its native beauty. In my last letter you observed, I dare say, that I was become nearly of your opinion; I will now state what has made my conviction complete. After I had finished the Orismology, I thought to begin the Letter which treats of the body of an insect considered more at large. Beginning with the crust, or skeleton, I next turned my attention to its articulations, distinguishing those that have free motion,—I mean motion independent of that of the parts to which they are attached on any side. In this view, taking a coleopterous insect for my example, the body to me appeared to consist of *four*, instead of *three* great joints—viz. the *head*, the *thorax*, the *metathorax*, and the *abdomen*. (With respect to the two last,—the metathorax and the abdomen,—they are much more closely connected in this order than the head and the thorax. I have not yet ascertained by observation whether they have free motion; but as they certainly have in Hymenoptera, &c., I for the present take it for granted.) Considering, then, that the upper part, or shield, of the thorax moves with the under part, or breast, and together form the second joint, this convinced me that the *collar* in Hymenoptera, which has no free motion, and is therefore part of the *metathorax*, with which it moves, could not be regarded as analogous to the *shield* of the *thorax*, which moves with the breast, independently of the *metathorax*. The instances referred to in my last,—viz. *Fœnus* and *Xyphydria*, in which the breast is evidently independent of the collar,—confirm this triumphantly. So in Hymenoptera, as well as Coleoptera, there are four free divisions; for I imagine that, although the head can move the thorax or breast, yet the breast can move (as in Coleoptera) independently of the head: but this, observation must ascertain. This grand discovery of yours leads to some very important consequences, affording an admirable clue for a new order, and also for two great divisions of insects—viz. into *Thoracici* and *Collares;* the latter subdivisible into *Collares, Collari distincto*, and *Collari evanescente*. The

Thoracici would include Coleoptera, Orthoptera, Hemiptera, and Neuroptera (excluding *Phryganea* and *Psocus*); and the *Collares, Collari distincto*, Hymenoptera, Trichoptera ?, and Lepidoptera ?; and the *collares collari evanescente*, would contain the Diptera. As to the Aptera, I cannot at present speak in this respect. With regard to my new order Trichoptera, every hour more convinces me of the propriety of it. In the *Libellulidæ, Myrmeleon, Ascalaphus, Hemerobius, Semblis, Ephemera, Raphidia*, &c., the *pectus* is covered by a *thoracic shield;* but in *Phryganea*, and *Psocus*, and *Panorpa?* it is not. I have no specimen of *Termes* to enable me to ascertain to which of these it belongs; but, from the veins of the wings, I should suspect to the latter. Upon looking again at *Panorpa*, it seems to have a small thoracic shield; and as its wings have veins as well as nerves, it probably belongs to the genuine Neuroptera: I wish much to have your sentiments upon this idea. I use the term *Trichoptera*, because most of the insects (the genus *Psocus* excepted) that belong to this order have hairs upon their wings, and it distinguishes them, I think, well from their affinities,—the Lepidoptera. The next thing to be considered is, by what name we shall denominate the *shield* of the thorax in the thoracic insects; for certainly the term *collare* should be restricted to the collar in the collaric tribe: corselet and collar will do extremely well for English terms, but I don't know what to do for *Latin*. If we restrict Thorax to the shield, what term shall we use for the breast and shield together? Then, also, we must turn *post-collare* into *metathorax*, and have a new term for the after-breast and after-corselet taken together. Chest and after-chest would do in English, but I cannot at present find a good Latin term. Will not anatomy help us here? Having *said my say* upon this subject, I shall next turn to the queries of your letter received this morning....."*
[Three folio pages of remarks follow on various matters I had adverted to.]

* In a letter written two days after (May 16), Mr. Kirby has the following further remarks on collare and thorax:—"I find it necessary, before this sieve-like memory of mine loses all traces of them, to lay before you some further observations and concessions upon the subject of thorax, collar, &c. I have been examining several thoracic insects this morning for something analogous to the Hymenoptera collar, and I find that what you took for the part in Coleoptera is certainly so. It exists in most Coleoptera,—perhaps in all,—in Hemiptera, and even in Lepidoptera, which have a true, though very

I am aware that, in giving this extract I shall be liable to the imputation of vanity; but if *laudari a laudato viro* is allowed to excite a pleasurable feeling, which, being common to humanity, we mutually excuse, I shall scarcely be expected to form an exception to the general rule, by keeping back the expression of the good opinion of my friend, which gave me so much delight in my youthful days of entomological enthusiasm. But, in quoting this letter, I have another object in view,—that of presenting the remarkable example which it offers of Mr. Kirby's candour and love of truth. How few men in his position as one of the first of European entomologists, in which his "Monographia Apum Angliæ" had placed him, would have had their minds open to the conviction of having been in error in one of its main anatomical details, and would have had the candour to admit that this error had been pointed out by a mere tyro in the science. For it must be observed that the question is not free from difficulties, but one on which much may be said on both sides;* and it would have been easy for one jealous of his authority, to have shut his eyes, and sheltered himself under this plea, and the weighty sanction of Illiger, who had adopted his views, from swerv-

slender thoracic shield. It is usually concealed under the membrane or ligament that unites the thorax to the metathorax, and its direction is downwards into the chest; so that in this order of insects it is a part of interior anatomy. The collar of Hymenoptera, in some instances at least (try *Nomada*, *Apis*, *Melitta*), is not merely a dorsal piece, but a belt which surrounds the whole metathorax, behind the pectus, though very slender at the breast. I have taken two, from a *Nomada* and *Apis*, off whole. This confirms beyond all doubt your discovery, and at the same time gives additional propriety to the term collare. . . . ."

* See "Int. to Ent.," Vol. iii. p. 546—550.

ing from the decision he at first came to when I started my objections,—that he continued of his former opinion as to the identity of the collare and thorax. But not so my excellent friend, who did not shrink from the closest contest of fact and argument, and frankly gave up his own opinions when convinced they were untenable. And so I ever found him during the course of our long friendship;—tenacious of the opinions which careful examination of any question had led him to form, but quite willing to listen to any fair arguments brought against them, and, when convinced, to admit their incorrectness.

In May 1810, I received from Mr. Kirby four of his longest letters. There was then a pause of nearly three months; and his next letter, begun May 29, was not finished and sent off till August 15. The beginning of this last portion is given, as it will interest entomologists, and as furnishing some traits of my friend of his own sketching, but very similar, I fancy, to what we most of us experience in similar circumstances.

"Aug. 15, 1810.—Your reproof, my dear friend, was not unmerited; and what can I do but appeal to your good nature for forgiveness, after having stated circumstances which may a little extenuate, though not excuse, my indolence and procrastination? About the middle of June, I went to Livermere, near Bury, to visit a friend who was formerly entomologically inclined:* he lives in a spot very favourable to the entomologist. Here I picked up many good things, particularly Neuroptera, Hymenoptera, and Diptera; besides which, my friend permitted me to rummage over his collection and take what I liked, so that I carried home a large box full of insects. This set me, when returned to Barham, to looking over my collection in Orthoptera, Hemiptera, Neuroptera, Hymenoptera, and Diptera, a great many of which were scattered about in boxes, &c., and which, upon inspecting them, I found were going fast to

* The Rev. Peter Lathbury.

ruin; and I saw it was necessary, if I meant to preserve the many good things I had collected, to put them in order, and in a place of security. This has employed all my leisure hours since my return from the above visit. I have now nearly finished the Hymenoptera, which occasioned me infinite labour, and have then only the Diptera to put to rights. During this interval, also, my house has been full of guests. Yet with all this business I have been daily thinking of writing to you, but my employment kept seducing me; so I said to myself, when I get through this genus I will write. Before your letter arrived, I had determined, as soon as I had done the Hymenoptera, to discharge the debt upon my conscience. It is too much my way, when I have begun to delay writing to any friend, to procrastinate in this way; and when I engage in any pursuit, it is with ardour; but if anything occurs to suspend my career, so that I lose the habit, I get a horror against it, which prevents my returning to it till after many efforts,—so that, as you justly say, sometimes I come down like a tropical torrent, and then follows a season of drought. You will see by this that I have not lately done much in our *opus magnum*. . . . . With respect to your letters, I shall answer the last first. You say your Letter on internal anatomy occupies fifty pages. Don't you think you can reduce it to smaller compass? for it strikes me that, considering the variety of matter we have to handle, that, unless we attend to brevity, we shall have our work extend to two or three volumes." [Then follow two folio pages of various remarks on the anatomy of insects, &c.]

In the summer of 1812, I spent four or five months in London, occupying the mornings chiefly in Sir Joseph Banks's rich library, which he threw open so liberally and unreservedly to the researches of naturalists, in collecting materials for our work; and about two months at Barham, where we jointly read and corrected the Letters that were to form the first volume of our work.

In the spring of 1814 I had the great delight to receive a long-promised visit from Mr. Kirby, but which, unfortunately, the delicate state of Mrs. Kirby's health obliged him to restrict to about ten days. These were chiefly spent in seeing the lions of Hull and the neighbourhood, and

in visiting the many friends eager to pay their respects to him. We did little in insect-collecting, but I had the great satisfaction of seeing him fish out with his own hands and secure a specimen of the then rare *Donacia* (*Macroplea*) *Zosteræ*, from the pond on the banks of the Humber, a quarter of a mile from my house, where I first took it, and the source for a considerable period of the first British specimens.

He then returned home by York, Newark, Huntingdon, and Cambridge. From his letter of May 30, announcing his arrival at Barham, with a full account of his journey, a few passages may be extracted:—

"I arrived safe at Barham on Saturday night, and found my dear Mrs. K., though far from so well as I wished and expected, yet better than she had been the beginning of last week. . . . I had a pleasant though a very cold ride to York, especially upon the wolds. I saw Mrs. Sandwith and her sons at Beverley, and I took particular notice of your native village, Bishop Burton, paid due respect to your old Elm, and assure you without flattery that I think it altogether the prettiest spot I saw in Yorkshire. We arrived at York about twelve, and after putting on clean linen, I marched to your friend Mr. H.'s, who received me very civilly. . . . He would not be satisfied without my engaging to dine with him, and then dismissed me, under the care of Mr. William H., to survey the Minster. I was much struck with this noble building, which exceeds everything of the kind I have ever seen; but I need not describe it to you. I then returned to dinner, and was sorry to find Mr. H. had decanted a bottle of fourteen years old port for me, of which I could not partake. [Mr. Kirby at this time found his digestion improved by abstaining from wine.] After dinner he took me under his own care to show me the other York lions. . . . ."

In the remainder of the letter he adverts to the mode of burning lime at Brotherton; the very long and narrow canal barges he saw near Retford; the gypsum pits near Newark; and to Southwell Minster, of which he describes

the peculiar style of architecture, and sends a message respecting it to John Crosse, Esq., of Hull, the eminent antiquary, with whom we had breakfasted.

At length, in the spring of 1815, the first edition of 750 copies of Volume I. of our book appeared,—just in time to allow me to take one with me to show to our entomological friends on the Continent, where I made a four months' tour after the battle of Waterloo. A second edition was called for the next year, and a third in 1817, when also was published Volume II., of which a second edition was required in 1818, and a third in 1822.

A sad interruption of our joint labours took place in 1818, in consequence of my ill health, caused by severe head-aches, gradually increasing, until at last they were excited by the slightest effort of attention in reading or writing. After struggling against them a year or more, and trying various remedies recommended by my medical advisers, I was obliged to give in, and, adopting Dr. Baillie's prescription of being "for several years an idle man," to lock up my books and cabinets; to put in order and send to my coadjutor, whose grief and disappointment were equal to my own,* my large pile of unfinished MSS. for my share of the work; and to transfer myself and family from

* A letter from Mr. Kirby, dated Jan. 18, 1819, with an account of some experiments with acids, &c., on the exterior crust of insects, concludes thus:—"You cannot conceive how much I feel the loss of your assistance in the variety of subjects that come before me. I want your opinion upon so many points, that I sometimes feel half disposed to throw aside my pen. I have nobody upon whose judgment I can depend to consult, for Mac Leay, who would on such occasions occur to me, is so extremely negligent as a correspondent (owing to his incessant official duties), that if I asked him ten questions he would not give me an answer to five, and that in a hasty manner. I must do, however, as well as I can, but I shall hail with joy the day that restores you to the *moderate* use of your pen."

Yorkshire to the more genial climate of Exmouth, where we resided several years.

During this period, though I took no active share in the completion of our book, I gave suggestions on various points in the letters which we still regularly exchanged; and one summer Mr. Kirby, accompanied by Mrs. Kirby, made the journey from Barham to Exmouth, expressly to spend a few days with us,—I need not say how greatly to my delight.

In 1826, our concluding Volumes (Vols. III. and IV.), appeared; and in this same year, as I found travelling always suit my health, which was still far from being re-established, I removed with my family to the Continent, where we spent the next eight years, visiting in succession most of the European capitals; and residing four years in Italy, but migrating to Switzerland in summer. During the whole of this time, as well as on our return to England, my correspondence with my old friend was regularly kept up; and we frequently saw each other on the visits made by Mr. Kirby to London, and one winter at Leamington, where Mr. and Mrs. Kirby joined us, and we spent a month together. Space can be here afforded for extracts from only two of Mr. Kirby's many letters during this period,—one addressed to Milan, and the other to Leamington.

"Barham, June 13, 1832.

"My Dear Friend,—I this morning received your kind and interesting letter from Pisa, and lose no time in setting an answer on the stocks, though it may be some days before I shall have leisure to finish it. I did not answer your last letters, because I was uncertain where to direct to you. I must begin by thanking you for the variety of new and interesting information your entertaining letters contain. They make my mouth water to be with you, but alas! it is not given to me to be partaker with you in your enjoyments. But I will not repine; I have too much to be thankful for, far beyond my

merits, to feel any lasting emotions of envy, but when I read your letters the wish will rise in the heart. I have very little scientific intelligence to communicate, for I know very little what is going on in the scientific world, having had very little communication with it of late.

"June 15.—I very recently completed the 50th year of my residence at this place, and received some very gratifying marks of regard and attachment from my neighbours. The members of the Claydon Book-Club had a jubilee dinner on the occasion, and, as a token of their regard, presented me with a very elegant piece of plate; and yesterday evening, they and their ladies, at least such as could come, were entertained here, about 27 altogether, and a very happy and pleasant party we had. Bernard Barton, the Quaker poet, a very friendly Friend, who before addressed some very pretty verses to me, inserted in our provincial paper a very beautiful address to me, but above my deserts, but which showed great liberality on his part to eulogise a receiver of tithes, and to acknowledge him as a Minister of the Gospel. They are too long to insert here, or I would send you a copy.

"You ask me to report progress with regard to my present undertaking. [The 'Bridgewater Treatise.'] It requires more time than I calculated to bring it out in a satisfactory form. I have written nearly 200 pages, but I fear I shall not get all I have to say in a single volume; but this, time will show. I find my memory does not help me as it used to do. [A summary of his plan follows, and queries as to any observations made by my Italian friends on the animals of Aristotle or Pliny, especially the *Polypus*.] I forget whether I mentioned to you that the 2d volume of Dr. Richardson's 'Fauna Boreali-Americana' is published. It is a most splendid volume, with coloured figures of the more rare N. American birds. We are establishing a Literary Institution and Museum at Ipswich. I have promised them my herbarium, which is considerable, and shall also give them my fossils. . . . . We have escaped the cholera in this part of the kingdom, in spite of the communication between Ipswich and London, Newcastle, &c. . . . . I have not taken an insect for ages. At 73 one cannot see.

"Yours, my Dear Friend,

"Very affectionately,

"Wm. Kirby.

"Wm. Spence, Esq., *Poste restante*, Milan."

"Barham, January 11th, 1841.

"My Dear Friend,—I fear you have wondered and felt disappointed by the non-arrival of any letters from Barham since the Rector and his Lady reached that place. At first, I was prevented from writing by an accumulation of business which called for immediate attention, and since, with one thing or other, my time has been so fully occupied, that I have delayed from day to day beginning an epistle to the sojourners at Leamington. But though I have not written, we have daily thought of them, and spoke of them, and not seldom wished that we were again enjoying with them the morning rambles and social evenings that were so pleasant to us. But I must tell you our history since we left Cambridge:—After spending a week at the latter place and Stretham very pleasantly, we packed ourselves into the Ipswich coach, and arrived at dear Old Barham once more, on Friday, December 18th, which we left October 14th. We found all our connections and friends well, and were received with hearty welcomes; and were thankful to see them again, and be settled down for the winter amongst them. And winter indeed it is, for the country has been covered with snow since the beginning of this month; but this morning a rapid thaw appears to have commenced, so that I shall content myself with perambulating my passage instead of my parish. I wonder whether your Leamington meadows have been covered with the above winter garment; this, I fear, would confine your rambles within a narrow space.

..... "Have you seen Henslow's paper on the diseases of wheat? I received it not long since from the author. It is printed in folio, and contains about seventeen pages. It was printed for private circulation, so I expect is not to be purchased. If you have not received a copy, I can send you mine. This is all the scientific news that I have to communicate....."

The first volume of a translation of the "Introduction" into German by Professor Oken was published at Stuttgart in 1823; the second in 1824; the third in 1827; and the fourth in 1833.

A fifth edition of our book had been called for in 1828, and on its being exhausted it was necessary to bring forward a sixth edition of Vols. I. and II., which it fell to my share to prepare, as my venerable friend's age precluded

any attention to it on his part. This edition, which was brought up to the then state of the science by the addition of upwards of 100 MS. pages of new matter, appeared early in 1843.

On our return at the close of 1843 from a twelvemonth's visit to Italy, Mr. and Mrs. Kirby came to London for some weeks to meet us, and between this period and his death I visited him twice at Barham: when, though his memory and bodily strength had greatly failed, I found him still the same kind-hearted friend,—still, as ever, happy and contented, ready to inform and be informed, to amuse and be amused, and taking the same interest he always did in the progress of science generally, and especially of Entomology.

I give copies or extracts of a few of his last letters, which will show that though the lamp of life was beginning to fade, his friendliness of disposition and love of science suffered no abatement:

"Barham, November 23rd, 1843.

"My Dear Friend,—You will be pleased to learn that we arrived here *salvi et sani*, on Tuesday, in very good time to make up our dinner, which was not accomplished all at once. We travelled by railroad, accompanied by one of the officials of the concern, who appeared to be a very good specimen of a travelling companion. He quitted us, however, before we reached the Colchester Station. At Kelvedon, we met our servant with a carriage and horses, which took us home much more rapidly than I expected. We were very loth to leave you and your *cara sposa* behind us, and talked often of you; but it is in vain to wish for what cannot be, so we must be contented with looking forward to our next merry meeting; in the meantime often taking the pen to relate to each other our mutual adventures. We hope Mrs. Spence is now able to take the air, and look about her again, and see all the London sights that are worth looking at; and when she has run the round of sight-seeing, that she and you will come and renew your acquaintance with the lions of Barham. Nothing is usually more strongly recommended to invalids that are convalescent than change of air.

"We are both, thank God, at this time very bonny, and I am resuming my old favourite pedestrian exercise.* How I should enjoy it with you! Yet the great beauty of the country, the foliage of the trees, is fast departing. Yet those of the grove in my garden seem to hang on, while those of the vicinity are all fallen..... One thing I must not forget,—to return our best thanks to you and dear Mrs. Spence, for your great kindness and attention to us during our stay in London. I don't know that I ever enjoyed a visit to the metropolis so much, and our enjoyment chiefly arose from your society and that of your better half. I shall leave the other side to Charlotte, who will address a line to her.†

"I am, my Dear Friend,

"Yours very affectionately,

"WM. KIRBY.

"W. Spence, Esq., 18, Lower Seymour Street,
Portman Square, London."

"Barham, June 14, 1847.

"My Dear Friend,—I must begin by thanking you for another supply of excellent ginger, which arrived on Friday. I find it a very good stomachic, and I must likewise thank you for your interesting and amusing note.

"I should like to have been at your elbow at the meeting where Sir R. Peel was present. You made a handsome collection.

"I hope Mr. Patterson's work‡ will succeed, as it was much wanted, and is well executed. I have lent my copy to Sir W. Middleton, who will show it to his friends. I was asked by a friend of his, if I was not going to publish a new edition of my Bridgewater Treatise, as he inquired for a copy and could not procure one in town. I shall consult my friends about it. What is your opinion?

"I was sorry Professor Owen has been suffering from dissecting

* Mr. Kirby's love of walking-exercise was remarkable. In one of his letters he says, "I never feel so happy as when on my ten toes."

† I had marked this complimentary paragraph to be omitted, but on second thoughts it is given, as exemplifying that fine feature of Mr. Kirby's character which so much endeared him to all who had the happiness of knowing him,—his genuine friendliness of nature which led him to over-estimate and gratefully acknowledge any attention his friends showed him.

‡ "Introduction to Zoology, for the use of Schools."

poor Jack the elephant in the Zoological Gardens, of whose death I read this morning.

"My movements have not been far from my own house of late, but I do think I shall go with Miss Rodwell, her sister, and Mrs. Kedington, to the sea coast for a few nights; we probably shall select Lowestoffe, or rather Felixstow, for our station, but we have not yet positively determined. I shall give you a line on our arrival at the coast; I don't expect our stay will exceed a few nights. I wish you and Mrs. S. could meet us there. I don't know whether you have any thoughts of attending the great meeting at Cambridge, for the election of a Chancellor; had I a vote I should be happy to give it to Prince Albert.

"I heard you had been drinking tea lately with my poor dear Charlotte's brother, George Rodwell; when you see him again give my love to him. Pray remember me kindly to all my scientific friends who do me the honour to enquire for me."....

"Barham, October 4th, 1848.

"My Dear Friend,—Thanks for your kind note, which arrived on my birthday, September 19th. Pray what is your birthday?

"I was amused with the portrait of *Miss Silpha*, and the verses that accompanied it. I have been much troubled by a painful attack of neuralgia in my left breast, which must be my apology for this short note; when it has left me I will send you a longer."....

"Barham, March 15, 1849.

"My Dear Friend,—I have received from Mr. Ransome the parcel containing copies of your address to the Entomological Society, and distributed them as directed. I heard it read, and liked it *very much*, and heartily wish your efforts, and those of our friends, may be crowned with the success that they merit, and that our number of members may be increased.

"I have been troubled by an attack of *Neuralgia pectoris*, which disables me from writing much, which must be my apology for my brevity.

"Miss Rodwell desires her kind regards to yourself and Mrs. Spence, &c. &c.

"I am, my Dear Friend,

"Yours affectionately,

"Wm. Kirby."

One of the last notes I had from Mr. Kirby, of only a few lines, and written in a tremulous hand, was in answer to a letter enclosing the prospectus of the "Insecta Britannica," proposed to be published under the auspices of the Entomological Society, for which we were desirous of having his sanction as its venerated Honorary President. This he gave emphatically, desiring that his name should be added to our list of subscribers, and expressing his strong wishes for the success of the plan,—thus showing that, to the latest period of his life, the extension of his favourite science was one of the objects nearest his heart.

I will not encroach on the province of my friend Mr. Freeman, who is so well able to do justice to it, by expatiating more largely on the admirable traits which, in every point of view, distinguished the character of my dear old friend; but I will conclude this slight sketch of the history of our long friendship, which for forty-five years formed one of the great pleasures of our existence,—I know that I may truly say of his as of mine,—by pointing out to our brother entomologists, whom I have had chiefly in view in writing it, two circumstances in his study of insects by which I was always forcibly struck on my visits to him at Barham.

The first was the little parade of apparatus with which his extensive and valuable acquisitions were made. If going to any distance, he would put into his pocket a forceps-net and small water-net, with which to catch bees, flies, and aquatic insects; but, in general, I do not remember to have seen him use a net of any other description. His numerous captures of rare and new Coleoptera were mostly made by carefully searching for them in their haunts, from which,—if trees, shrubs, or long grass, &c.—he would beat them with his walking-stick into a news-

paper; and, collected in this way, he would bring home in a few small phials in his waistcoat pockets, and in a moderate-sized collecting-box, after an afternoon's excursion, a booty often much richer than his companions had secured with their more elaborate apparatus.

The second circumstance in Mr. Kirby's study of insects to which I allude was the deliberate and careful way in which he investigated the nomenclature of his species. Every author likely to have described them was consulted, their descriptions duly estimated; and it was only after thus coming to the decision that the insect before him had not been previously described that he placed it in his cabinet under a new name. It was owing to this cautious mode of proceeding—which young entomologists would do well to follow—that he fell into so few errors, and rendered such solid service to the science; and a not less careful consideration was always exercised by him in the forming of new genera and in his published descriptions of new species; as his admirable papers in the Linnean Transactions amply testify.

The above remarks are meant for entomologists; but there is another moral to be derived from Mr. Kirby's life, to which, in concluding, I would fain draw the attention of all who, like him, have some leisure time to command, and reside in the country,—the great accession of happiness which he derived from his entomological pursuits, which not only supplied him with objects of interest for every walk, and for every spare moment within doors, but introduced him to a large circle of estimable naturalists at home and abroad, and thus virtually doubled the pleasures of his existence; and this without neglecting any one of his professional or social duties, with which, much as he did for Entomology, he never allowed his study of it to interfere.

CHAPTER XVI.

General Life of Mr. Kirby resumed.—His Papers contributed to the Linnean Society.—On the Tribe of Insects called Weevils.—On the Establishment of a new Order of Insects—The nondescript Insects of his own Cabinet.—Some Species brought from New Holland, &c.—Mr. Kirby publishes Description of Insects discovered by the Northern Expedition under Captain Parry, 1819-1820.

Although Mr. Kirby could turn his attention to Theology and Natural History with so much facility that they both entered into his daily pursuits, I have found it convenient in some measure to separate the two; and upon resuming my narration, I propose noticing briefly some of those publications which were omitted in their proper place.

In a paper read June 5th, 1805, before the Linnean Society, and which was subsequently published in its Transactions, Mr. Kirby conferred a great benefit upon entomologists, by ascertaining and mapping out the characteristic features of a considerable number of a tribe of insects which had hitherto been much confounded together, or treated of only as varieties of the same species.

One of the great charms of Entomology,—and indeed of every kindred science,—is derived from the interchange of our observations one with another; and in this instance great advantage accrues to society from applying the knowledge of the œconomy of insects to checking the ravages of the noxious, and leaving untouched those that are of service in keeping the former within bounds. If entomologists, however, are unable to discriminate between different insects, they must necessarily in their correspondence lose much of

the advantage to be derived from combined observation: this latter remark especially applies to that tribe of insects which are generally known under the name of Weevils.

These insects had hitherto been arranged under the genus *Curculio* by Mr. Marsham,* who followed Linnæus, and that of *Attelabus* by Fabricius, Latreille, and others.

Linnæus had been led to place them under the genus *Curculio* from the fact of their antennæ being seated on a rostrum. Observation showed to Mr. Kirby that, in addition to other parts, the antennæ differed so widely in different insects that it was not only easy, but even necessary for perspicuity, to constitute a new genus. Fabricius, it is true, had separated the genus, but he had placed them under *Attelabus*, against which arrangement being admitted, very ample reasons are adduced by Mr. Kirby.

The genus *Apion*, proposed by Herbst in his "Natur-system," is then adopted.†

The Monograph of Mr. Kirby (the plan of which is precisely similar to that of the "Monographia Apum") next constructs characters, essential, artificial, and natural.

A synopsis of 60 species is then given, which is followed by a more minute description of each species, with its synonym, habitat, or any remarkable feature belonging to it,—as its food, time of appearing, &c. It is impossible to follow these notices; I shall, however, give the substance of a few of the most remarkable:—

Apion ruficorne.—This insect is described as very rare: "Herbst never saw but one specimen of it; and three only,

* They constitute Mr. Marsham's second section of his first division of his first family of this genus.

† This name is derived from the resemblance of the insect to a pear (ἄπιον). Mr. Kirby, objecting to a Greek termination to a word to be used as Latin, had once proposed to himself to use the diminutive, Apiolum: from this he was dissuaded.

that I know of, have been taken in England—one by Mr. W. J. Hooker, of Norwich, and two others by myself."*

16. *A. malvarum.*—This insect, in Mr. Marsham's cabinet, was placed as the *Curculio Trifolii.* It is, however, quite distinct from the weevil which destroys the clover plant; it is not even to be found upon that, or indeed upon any diadelphous plant. Close investigation of the thorax and elytra clearly established the difference. An error, this, of some importance to detect, as other diseases might be attributed to the accidental presence of *A. malvarum,* while the true cause remained unsuspected.

25. *A. sorbi.*†—"A rare insect, particularly that which, upon the authority of Major Gyllenhal, I have given as the male, which has been taken in Britain but once, by Mr. Spence."

37. *A. Spencii*—"stands unique in the collection of my friend, William Spence, Esq., F.L.S., whose name it bears—a tribute justly due to one of the most acute and learned entomologists of this island."‡

52. *A. Hookeri.*—"I am indebted to the kindness of an excellent naturalist, Mr. W. J. Hooker, of Norwich, who first discovered it, for this species. Many other nondescripts have been taken by him and his brother, Mr. J. Hooker; and I name this insect after them as a memorial of my sense of their ability, and exertions in the service of my favourite department in Natural History."§

Of the 60 insects here described, not fewer than 28 of the species were new: this number does not include the most interesting species, *A. Limonii,* which was not discovered until the greater part of the paper was printed.

* Linnean Transactions, Vol. ix. p. 31.
† Ibid. p. 47.
‡ Ibid. p. 57.
§ Ibid. p. 70.

"I met with this insect," Mr. Kirby says, "in the sea-marshes at Holme-juxta-mare, in Norfolk, (a village remarkable for producing many scarce plants and insects,) upon the leaves of *Statice Limonium*, when the plant was first beginning to blossom. Mr. J. Hooker took it upon the sand-hills at Cley, in the same county. It is perfectly distinct from every other, and by far the most beautiful and splendid specimen of the genus that I have yet seen."*

A plate, with 20 insects coloured, accompanies the paper; they were drawn by Mr. Kirby, and are admirably executed. Mr. Kirby's next paper was communicated Dec. 5, 1809, and entitled "Descriptions of Seven New Species of Apion."

This, as its title implies, may be regarded as a supplement to the former, and calls for no remark. At the conclusion are appended some observations, in consequence of Mr. Kirby's friend, Mr. Spence, "whose eye nothing escapes," having called his attention to the trochanters of *Apion*, the peculiarities of which fully substantiate the claims of these insects to be considered as a new genus.†

At the conclusion of the description of *Melitta nigro-œnea*, in the "Monographia Apum Angliæ," Mr. Kirby refers to an insect which he found upon it. This discovery is so interesting in itself, and so important from the circumstances which arose out of it, that I shall make an extract from the work:—

"I had previously more than once observed upon other specimens something that I took to be a kind of *Acarus*, which appeared to be immoveably fixed just at the inosculations of the dorsal segments of the abdomen; at length, finding three or four upon a specimen of *Melitta nigro-œnea*, I determined not to lose that opportunity of taking one off to examine and describe. But what was my astonish-

* Linnean Transactions, Vol. ix. p. 79.

† Ibid. Vol. x. p. 354.

ment when, upon my attempting to disengage it with a pin, I drew forth from the body of the *Melitta* a white fleshy larva, a quarter of an inch in length, the head of which I had taken for an *Acarus*. How this animal receives its nourishment seems a mystery. Upon examining the head under a strong magnifier, I could not discover any mouth or proboscis with which it might perforate the corneous covering of the abdomen, and so support itself by suction: on the other side of the head, at its juncture with the body, there was a cavity; but I could observe nothing in this but a uniform unbroken surface.

"After I had examined one specimen I attempted to extract a second; and the reader may imagine how greatly my astonishment was increased, when, after I had drawn it out but a little way, I saw its skin burst, and a head as black as ink, with large staring eyes, and antennæ consisting of two branches, break forth, and move briskly from side to side. It looked like a little imp of darkness, just emerging from the infernal regions. My eagerness to set free from its confinement this extraordinary creature may easily be conjectured: indeed, I was impatient to become better acquainted with so singular a creature. When it was completely disengaged, and I had secured it from making its escape, I set myself to examine it as accurately as possible; and I found, after a careful inquiry, that I had not only got a non-descript, but also an insect of a new genus, whose very class seemed dubious. From its mode of life, it ought to belong to the Linnean genus *Ichneumon*, in the Hymenoptera; but it has neither stemmata nor four wings, and its palpi are not at all similar to those of the insects of that class. From its elytra (which, however, are placed in an extraordinary situation, being fixed to the sides of the thorax), it ought to be a coleopterous insect; but it seems to possess but little of the general habit and character of that class:—perhaps it had better be considered as hemipterous; but, till an opportunity occurs of examining more specimens, it would be rash to speak too positively upon this head."*

A description follows of this non-descript insect, to which the name of *Stylops* is given. When the Mon. Ap. Angliæ was published, this was the only one Mr. Kirby had seen. In his own interleaved copy of the work, having, on a blank

* Mon. Ap. Ang., Vol. ii. Pl. iii.

page, described *Melitta Yeatella*, he remarks:—"This insect resembles both *M. Gwynana* and *M. picicornis*, but it is smaller than either, and seems sufficiently distinct. I extracted from its abdomen the male and female *Stylops Melittæ*, which, together amounted to one-fifth of its magnitude at least."

In the year 1810, Mr. Kirby received from his friend Professor Peck an insect in material points resembling *Stylops Melittæ*, with an elaborate description of its discovery, and his observations upon it. This induced Mr. Kirby to pursue his investigation still farther, the result of which was that he was led to write a paper, which forms an epoch in the history of Entomology. This was read before the Linnean Society March 19th, 1811.

Of all his contributions to the Transactions of this Society this must be regarded as the most important. He had hitherto described insects unknown or unnoticed, and had arranged the species of genera which he found in confusion, and had farther proposed new genera when required; but he now takes a wider range, and, with only three insects before him, successfully establishes a new order.

In this paper Mr. Kirby assigns to Rossi the honour of having been the discoverer of a tribe of insects which belonged to none of the orders then established, though he appears scarcely to have been aware how impossible it was to arrange his *Xenos* in any known one. The interesting letter of Professor Peck is given at length; after which the remarks of Rossi upon the *Xenos* which he had discovered. "This," Mr. Kirby says, "as far as I can judge from his figure* and description, appears to be a distinct species from Prof. Peck's,—if, indeed, it belongs to the same genus.†"

* In Etrusc. Mantiss. Tab. vii. fig. B, 6.

† Linn. Trans. Vol. xi. p. 93.

The manner in which Mr. Kirby proceeds to separate these insects from others, exhibits a most perfect specimen of the steps which should be taken in handling such questions.

The metamorphosis of the insect is allowed its share and weight, but not before four concise and unexceptionable rules are laid down for determining this. The situation, connection, and direction of the elytra, — the position, substance, figure, folding and veins of the wings, are noticed, and compared with the similar parts of other insects: indeed, every part of the insect passes under review, and several features are pointed out which render it impossible, without great violation of all prescribed rules, to admit these insects under any existing orders.

The name selected for this new order was Strepsiptera.* The characters of the order, essential, artificial, and natural, are then given. After this, those of the two genera, *Stylops* and *Xenos*, followed by descriptions of the insects of Rossi and Peck, which Mr. Kirby calls *Xenos Rossii* and *X. Peckii*, instead of *X. vesparum* and *X. vespæ*, which had been proposed; observing that these names would lead to confusion, and that a species should not be named from a habitat which may be common to several, or to a genus.

This paper was enriched by two plates, one from the drawings of Professor Peck, the other by F. Bauer, Esq., by whom Mr. Kirby was assisted with a powerful microscope.

The exact measure of *Xenos Peckii* is given from accurate observation: length of body $\frac{1}{10\frac{5}{0}}$ inch.; breadth of the head at the eyes $\frac{4}{100}$ inch; length of one antenna $\frac{44}{100}$ inch.

*. Derived from στρεψις and πτερον, on account of the elytra being distorted.

The figures in Mr. Bauer's drawings are some of them magnified 900 times superficies.*

Mr. Kirby's next contribution to the Linnean Society was read February 16th, 1813.† It contains merely a description of an insect furnished by Mr. George B. Sowerby; this was necessarily short, from the mutilated state of the specimen. Sufficient, however, remained to distinguish it from *Stylops Melittæ;*—the name it received was *Stylops tenuicornis.*

A long interval elapsed between this paper and the next, which was not read until November 4th, 1817: this is accounted for in some measure by the great demand which was made upon Mr. Kirby in preparing the "Introduction to Entomology" for the press, and in part by domestic circumstances already alluded to.

The paper now under consideration was entitled "A Century of Insects, including several new Genera described from his Cabinet. By the Rev. William Kirby, M.A., F.R.S. and L.S."‡

The motive for undertaking it cannot be better given than in Mr. Kirby's own words:—

"The infinite host of nondescript insects occurring in the Entomological cabinets of this country, is rather disgraceful

* "It is greatly to be regretted that Mr. Kirby had not obtained a knowledge of the sexual distinctions of the Strepsiptera, and that Mr. Bauer's drawing, representing the pseudelytra, attached to the base of the fore-legs, led Mr. Kirby, and subsequently other authors, into incorrect ideas of the relations of these curious appendages."—Proceedings of the Entomological Society of London, 1850," p. 27. I take this opportunity of acknowledging the advantage I have derived from having the synoptical table of Mr. Kirby's writings before me, which appears in this paper, prepared by J. O. Westwood, Esq.; as well as for other assistance which he has kindly afforded me.

† Linn. Trans. Vol. xi. p. 235.

‡ Ibid. xii. p. 375—453.

to us: and what is more so, we permit foreigners to do that for us which we are fully competent to do ourselves. Witness the numbers described by Fabricius, Oliver, and others, from British collections.

"Pudet hæc opprobria nobis
Et dici potuisse et non potuisse refelli."

I am not, however, so illiberal as to wish that the entomologists of the continent should be excluded from our cabinets; if we ourselves are too idle, or too busy to give the public some account of our entomological treasures, it is for the interest of science that they should do it for us. To remove in some degree this opprobrium, I beg leave to offer to the Linnean Society descriptions of a century of the nondescript insects of my own cabinet."*

The arrangement followed by Mr. Kirby was that of M. Latreille, but as many of his insects could not be placed in Latreille's genera, new generic names and characters were found for them. The insects were chiefly Coleopterous, in which order 22 new genera were described,† besides *Gonyleptes*, a new genus of *Phalangidæ*. Seventy of these insects were from Brazil, almost all of them having been presented, with many others, by Captain Hancock, R.N. After this gentleman *Curculio Hancocki* received its name, with the following complimentary paragraph:—

"In honore D. Hancock, Classis Regiæ Narvarchi, qui innumera insecta quamplurima inedita, mei gratia in

* Linn. Trans. xii. p. 375.

† These were, *Pelecium* (*Carabidæ*), *Anelastes* (*Cebrionidæ*), *Eurypus*, *Axina*, *Priocera* (*Cleridæ*), *Geniates*, *Apogonia* (*Lamellicornia*), *Psammodes*, *Oxura*, *Scotinus*, *Sphærotus*, *Strongylium*, *Eurynotus*, *Adelium* (*Tenebrionidæ*), *Spheniscus*, *Stenochia* (*Helopidæ*), *Gnathium* (*Meloidæ*), *Rhinotia*, *Eurhinus*, *Rhinaria* (*Curculionidæ*), *Lamprosoma* (*Chrysomelidæ*), and *Choragus* (*Choragidæ*).

Brasilia collegit, et mihi benevolentissimę dono dedit, hoc splendidum insectum nominavi."*

Thirty-two of these insects were exquisitely drawn and coloured by Mr. John Curtis. This paper was subsequently republished in Paris by M. Lequien, in 8vo., in the year 1834, with four coloured plates; but I am not aware that Mr. Kirby was in any way connected with it.

But a short interval passed after this elaborate paper, when another of precisely the same character was sent to the Linnean Society, and was read February 17th, 1818.

The circumstances which called for this are given in the introductory remarks:—"Mr. Brown (who has so ably illustrated the Flora of New Holland, and whose observations and discoveries have diffused so much new light over the science of Botany), when in that country did not overlook its zoological productions, and, amongst other subjects, collected many new and singular species of insects." Mr. Kirby proceeds:—"Desirous of having these treasures described, and his time and attention, to the great benefit of the botanical world, being devoted to another science, though fully competent to the task himself, he has requested me to lay a description of them before the Linnean Society."

There were thirty-three species to describe: these were, with the exception of seven, Coleopterous insects.

In the arrangement of them it was found necessary to form three new genera. The first of these was *Bolboceras*: two sets of characters are given,—one of this new genus, and another of *Geotrupes*, Latr.,—that the reasons might

* Insects were also named in this paper, after M. Latreille, *Entomologicorum hodiernorum facile princeps*, Illiger, J. C. Savigny, Alexander Mac Leay, Francillon, G. E. Leach, Arnold, Dufresne, Roddam, David Reid, Marsham, Spence, R. Sheppard.

appear for thus separating insects from a genus to which they had hitherto been regarded as belonging. *Geotrupes vernalis* is shown to connect the two genera.

The second new genus had previously received its name of *Distichocera* by Mr. Mac Leay; it connects *Cerambyx* with *Molorchus*. The third genus was *Achilius*, closely allied to *Fulgora*.

A plate similar to those noticed above, also by Mr. John Curtis, was attached to this paper, in which thirteen of the most remarkable insects were coloured.

Insects are named after Mr. Brown, and Mr. J. Curtis.

The next Entomological work undertaken by Mr. Kirby, whilst it called attention to the imperfect state of one branch of the science, gave encouragement to others, by his own example, to supply what was wanting.

The title of this paper was, "The Characters of Otiocerus and Anotia, two New Genera of Hemipterous Insects belonging to the family Cicadiadæ; with a description of several species."

Notwithstanding the pains which M. Latreille had bestowed upon the family of Cicadiadæ, Mr. Kirby remarks;—"Considering the great beauty of some species, the almost incredibly singular and grotesque form of others, and the celebrity which from the earliest age has been attached to a third tribe of them, it is wonderful that this family has not been more attentively studied, and its genera more accurately distinguished and defined."*

The characters are then pointed out by which this better arrangement might readily be arrived at. Of this family Mr. Kirby had purchased some insects at the sale of Mr. Francillon's museum†: upon close examination he found

* Linn. Trans. Vol. xiii. p. 12.

† Vide p. 349.

that several were ill adapted to the genera of M. Latreille, but more especially he was struck with a set collected in Georgia, and admirably displayed by "that expert collector, accurate delineator and painter, and most intelligent observer of natural objects, Mr. Abbot." These Mr. Kirby determined to form into two new and distinct genera, allied to *Fulgora* and *Delphax*.

The characters of these genera *Otiocerus* and *Anotia* are then given. After this, eight species of the former, and one of the latter, are described. A plate executed by Mr. J. Curtis accompanies the paper.

In the account of Captain Parry's voyage for the discovery of a North-West passage, in 1819-1820, an Appendix was published, and to this Appendix a Supplement containing an account of the subjects of Natural History.

This was prepared by Captain Sabine, Mr. Kirby, and Mr. J. E. Gray: Mr. Kirby taking the insects under his care to describe. Only six species were captured, but these were with one, or perhaps two exceptions, new. The first is noticed as being too much injured to examine with sufficient accuracy its palpi, so as to determine whether it belonged to a new genus; if it had been certainly new, the name proposed was *Psychophora*. As this doubt existed, it was described as *Bombyx Sabini*. The second was Bombus Arcticus = *Apis Alpina*, O. Fabr. Faun. Græn. 155,—distinct from the Linnean Apis.

The other insects were *Ctenophora Parrii*, and *Chironomus polaris*. There were also two more which could not be accurately determined, not being sufficiently perfect. One of them was a minute spider; it was observed running over plants on the ground: when alarmed it would leap: it was supposed to be a new genus of *Salticus*. The other was a caterpillar with six true legs, and ten spurious or membranaceous: it appeared to be too large for that of

Bombyx Sabini, and probably belonged to that tribe the perfect insects of which constitute the genus *Laria* of Schrank.

Speaking of *Bombus Arcticus*, Mr. Kirby tells us that scarcely any genus of the insect creation has so large a range. It is found in the Old World and in the New, and from the limits of phænogamous vegetation to the equator, but its metropolis appears to be within the temperate zone. The range of the species *B. Arcticus* appears to be limited by the Arctic Circle, and to go from Greenland only westward, for it does not appear to have been seen in Lapland or Iceland, or other of the eastern parts of that circle.*

The number of insects brought home may appear to the reader small, but, as Mr. Kirby remarks,—Otho Fabricius, in his Fauna Grænlandica, described only sixty-three species collected in six years in West Greenland. Professor Hooker, he also says, speaks of those of Iceland as being very rare.† It must, however, be observed, that Mr. Kirby hesitates to adopt the conclusion that all had been taken, as some might disappear during the particular season at which the search was made: there might also be many parasites both of birds and animals which had escaped observation.

* Supplement to the Appendix of Captain Parry's Voyage in 1819, 1820, P. cccxvii.

† "Recollections of Iceland."

CHAPTER XVII.

Correspondence.—Professorship of Botany at Cambridge.—Mr. Kirby's marriage with Miss Rodwell.—Visit to Paris.—Sir James Smith and "The Lilies of the Field."

THE long-wished-for "Introduction to Entomology" once published, added greatly to Mr. Kirby's list of correspondents: some letters were to ask for elucidation of difficulties which had occurred to the writers in their own observations, and which they did not find yet cleared up; others addressed him purely in the spirit of gratitude to express their acknowledgments to the authors of a work of such an interesting and instructive character: but I shall leave some of the writers on these and other topics to convey by their letters an impression to the reader of the estimation in which Mr. Kirby was now held, and also to infer the gratification he must have experienced from so happy a termination to the first part of the laborious work which he shared with Mr. Spence.

The Rev. Mark Noble to Mr. Kirby.

"Barming Parsonage, August 18th, 1815.

"My Dear Sir,—Will you forgive my addressing you respecting the work which you and Mr. Spence have just published..... The arrangement is admirable. Be assured it far exceeds any thing I could have fancied in my mind. The power and goodness of God are well declared by you in writing of these his minutest living works. Religion and the truest philosophy will weave you a wreath of the most brilliant hues.

"I was surprised in reading lately, that in the oceans of the sand in

Egypt there are lice innumerable: how do they live? I have read all, I believe, that has been written of New Holland. We hear of spiders enormous,—horrid creatures! In Kent, we have a species of vast size: I have seen six or eight of them. In New Holland their webs are so firm that they are not easily destroyed with a stick of considerable thickness. As to ants, their habitations are towers, and such as would resist an attack with spades and pickaxes. The same I learn there are in South America.

"When upon a visit some years ago in Northamptonshire, I remarked to Mr. Knightly the vast quantity of ant-hills on his estate: he said he had repeatedly desired his farmers to dig them out, but they would not be prevailed upon. The ant-hills filled nine parts of ten of the grazing land: the pretence was, that between the hills of ants the grass was better than if the hills were removed; never reflecting that the other nine parts had no good grass upon them. At length, one farmer with reluctance dug out the hills, carried them to a distance, and mixed the soil with lime, destroying more lives than even Bonaparte has in all his wars. You speak of red liquidizing from the butterflies; I once witnessed this,—the drops fell upon a MS.: it is some years since. The stain is as fresh as ever. If any could be collected it would be more useful than red ink; it penetrates through the paper.....

"May your pleasures be multiplied ten thousand fold,—may you live long to edify by your studies not only Europe, but the world.

"My Dear Sir,

"Your very sincere friend,

"And most obedient servant,

"MARK NOBLE."

Dr. Barclay to Mr. Kirby.

"Edinburgh, November 1st, 1815.

"Dear Sir,—I no sooner heard of your Introduction to Entomology than I ordered a copy, though the copy with your compliments arrived before it, and flattered my vanity not a little. At the time, I was preparing and delivering a course of lectures on Comparative Anatomy, the first attempt of the kind in this country, and requiring every possible exertion, that it might not be ruined for ever in its infancy. In the midst of this hurry, I had resolved not to engage in the study of any thing else, and determined to glance only at your title page, and introductory letter. But what was the consequence? I

went on, rose early and sat up late, till I arrived at the conclusion, regretting that I had arrived so soon, and that I must wait so long for what was to follow. In short, I must tell you frankly and honestly, that I have not for these twenty years read any book from which I derived so much genuine entertainment and rational instruction. I have been so full of it ever since, that I have been recommending it to all my acquaintances, many of whom have already perused it, and received the same impressions from it that I did. To the Entomologist it is everything, and to the Divine I would not say equal, but even superior to Paley's Natural Philosophy. My friend and neighbour, the Professor of Divinity in this University, as soon as he saw it, ordered it for the public library of the Divinity Hall; and several other clergymen, who I know had ordered Paley, Bonnet, and Derham, have thanked me for mentioning to them a new and additional source of deeply interesting and valuable information. I would fain hope that you will be equally perspicuous and successful in the detail of anatomical description; you are aware already of what I think of many of the terms usually employed to denote position and aspect. From the vagueness of these terms, many works on comparative anatomy and surgery are next to useless, when precise and minute description is necessary. You have already, beyond any writer who has gone before you, brought a more numerous, a better arranged, and a more irresistible host of arguments to enforce the conviction of a constantly superintending Providence, and have shown incontestably that a much greater share of the economy of nature is conducted through the medium of insects, than even the most eminent philosophers and naturalists had ever supposed. It might lead to much curious speculation were we to enquire by what peculiarity of structure and sensation their instincts are excited by the slightest changes of external circumstances. As well as plants, and many other animals, they are evidently sensible of many minute changes in the state of the atmosphere, of which our barometers, thermometers, hygrometers, eudiometers, photometers, nor any of our chemical tests, give the least indication. In many respects their senses and sensations are no doubt similar to ours, but in others, again, are we not warranted to infer from their actions that they also have many that are sui generis? In one passage,—but I forget where, for my notes are lost (being hurried away on a tour through Ireland at the time I was preparing to write to you),—you observe that instinct, alluding, however, to a particular instance, was nearly equal to reason, but your general opinion seems to be, that instinct is superior, and that there

is a Divinity in instinct which is not in reason. I think that opinion the sound one. Your book, like the mountain pine and the hardy oak, may make but a slow progress at first, but as it is known it will spread rapidly, and render itself and you immortal With the highest respect for your coadjutor, Mr. Spence,

"I am,

"With very sincere esteem, Dear Sir,

"Yours truly,

"JOHN BARCLAY."

The Bishop of Chester to Mr. Kirby.

"Palace, Chester, December 30th, 1815.

"My Dear Sir,—I was glad to receive a letter with the signature of an old school friend, and indulged in the recollection of the happy scenes of our boyhood. Most ready shall I be to prove the sincerity of my friendly feelings towards you in the manner you name.....

"Your account of our old Master* interested me much. Pray remember me kindly to him, with an assurance that I shall ever bear his and his sister's kindnesses to me in grateful recollection.

"Nec me meminisse pigebit Elisæ,
Dum memor ipse mei, dum spiritus hos reget artus.†

"It will give me pleasure to see you whenever you can favour me with your company.

"I am, my Dear Sir,

"Your faithful servant,

"GEORGE H. CHESTER."

In the early part of this volume, it was stated that when Mr. Kirby took his Bachelor of Arts degree, not imagining that he was ever likely to be connected with the University again, he removed his name from the boards. In the year 1815, however, he received his degree of Master of Arts: the object with which he took this step was, that he might be qualified for the Professorship of Botany at Cambridge; a

* The Rev. John King, Rector of Witnesham, formerly Master of Ipswich Grammar School.

† Æneid, iv. 335.

post for which he was urgently entreated to offer himself, not only by his immediate friends, but also by many influential members of the University, who had become acquainted with him, either by his works, or by his general reputation.*

It may here suffice to observe, that after a sharp controversy it was determined that the Professorship was not at the disposal of the Senate, but that it rested with the Crown to nominate a member of the University. When at length the office became vacant, though fitness for the duties of a professor were not disregarded, yet certain political views were deemed essential qualifications: this circumstance limited the field for choice, and excluded Mr. Kirby; the present worthy and excellent Professor receiving the appointment.

Extract from a letter from Dr. Leach to Mr. Kirby, April 25th, 1817:—

"I once observed near Exeter, in the spring, *Vanessa Urticæ* pursuing *Bombus terrestris*.—This morning I received a log of wood from a vessel now in the London Docks. The vessel was laden with hides from Buenos Ayres, and the wood was very much perforated by the larvæ of one of the many species of *Dermestes*, confounded under the name *vulpinus* in cabinets. Mr. Baber also, Director of the Library in the British Museum, sent me another species that had perforated a MS. from Mount Sinai. It is a new fact to me that Dermestides perforate wood. The damage done (by the larvæ of the Dermestes) to the wood caused the proprietors of the vessel to consult me as to the best mode of destroying them. I suspect that the larvæ only perforate the wood after they have done feeding, in order to find a secure retreat in which to undergo their change. The perforation never exceeded half an inch, or a little more."

The following interesting observation upon the move-

* The Regius Professor of Greek, the present Master of Caius, and others.

ments of some humble-bees, was communicated to Mr. Kirby by Sir George Mackenzie, June 28th, 1817, in the hope that he might derive some information as to the method by which insects found their way: —

"Some humble-bees had formed their nest under the floor of an outhouse, where they were for two successive years. When the door of this house was closed, which was usually the case, the bees entered at some holes at the bottom, and so passed to their nests at the opposite side. But when the door was open, either partially or entirely, the bees that arrived hovered a good while, as if puzzled:—some went away, and others getting nearer to the door sunk to the bottom, and then passed through the holes, but appeared quite at a loss, and wandered all about the floor, often crossing their usual path, but seemingly quite bewildered and anxious.

"A few that alighted close to the door-post turned the corner, and reached their destination. It appeared that every one that remained in the light occasioned by opening the door was confused, and those which got into the shade succeeded. The bees which were going abroad were not in the least at a loss; the moment they got into the light, they took wing, although several fell from the usual spot from which they departed."*

Mr. Briggs to Mr. Kirby.

"Walworth, September 10th, 1817.

"Dear Sir,—..... About two months ago, I met with an insect in my garden which may be worth your attention, inasmuch as it affords an instance of Parasites being larger (collectively) than the insect they feed upon. It was a small spider about the size of a spinner, with four bright scarlet ticks attached to the hind part of

* How Mr. Kirby accounted for this I do not know: the puzzle in which the returning bees were, seems to have arisen from their not finding the light exchanged for darkness at the point where they expected it, viz., at the line of the closed door; the outward-bound bees, on the contrary, having had time, in crawling towards the door, to become accustomed to the changed position of the line of shadow, manifested no such perplexity as the homeward-bound, who came upon the door suddenly.

the thorax, which they each exceeded in length. I afterwards found another spider, with two ticks, one of which was as large as the whole spider. My attention to them was attracted by observing a bright scarlet speck moving rapidly over a currant leaf. I first imagined it was a curious cluster of eggs which the spider carried with it, and was not completely undeceived till, upon separating them, they crawled about the box for several days after the spiders were dead.....

"You wish that a microscopic telescope could be invented, and are not perhaps aware that (as stated in Adams' Essay on the Microscope) any pocket achromatic telescope will define and magnify objects from about six feet to any distance from the instrument, if the tube be of sufficient length. And I am told that they may be lengthened even with a paste-board tube, so as to answer the purpose of a microscope.....

"I am, my Dear Sir,

"Yours very sincerely,

"J. HOBART BRIGGS."

In a former page* the reader was informed that a connection (closer than that of friendship) existed between Mr. Kirby and the family of Rodwell. This arose from his marriage with Miss Charlotte Rodwell, of Bayleham, sister of Mr. Josiah Rodwell, whose interesting correspondence with Mr. Kirby has been already noticed. This marriage took place at Bayleham, June 27th, 1816.

In the following year Mr. Kirby, for the first time in his life, left England, and, accompanied by Mrs. Kirby, made a trip to Paris. His impressions of the country, and the general effect produced upon him, he described in a letter to Dr. Sutton, dated June 19th, 1817 :—

....."We had a most glorious view of the whole city (Rouen), surrounded by its Boulevards,—the Cathedral in the centre, and the beautiful Seine with numerous verdant islets floating in it,—from Mount St. Catharine, a very high hill, near the road to Paris. We left Rouen about 4 P.M., for Vernon, distant about thirty miles: a

* Vide page 56.

great deal of our route commanded the Seine, still decked with islets. ..... Before we reached Vernon the vineyards began to appear; the vines are trained each to a single stick, not more than three feet high; amongst them lentils are often planted in a ridge, two rows of vines being in the trench..... But what was remarkable, sometimes a vineyard was not much larger than a good-sized table: this gave the country the appearance of a vast garden. At Vernon we were not comfortably accommodated, and paid dear. We had plates for saucers, table-spoons for tea-spoons, a soup-ladle for our milk, a pie-pan to wash in. From thence we started as soon as horses could be procured, and made for Paris: the country here exchanged apples for a forest of cherries, and abundance of vineyards; but every spot was cultivated down to the brink of the Seine, which still was at intervals our companion. At Poissy there seemed to be a curious round top turret attached to a church. We passed Marli, the grand water-work machinery that raises water for the supply of Versailles, and soon saw, in apparently extensive grounds, Buonaparte's favourite residence of Malmaison. The house was ugly, but the grounds appeared pleasant. We got to Paris about 5. My friend, Mr. Mac Leay, had only informed his son of *my* going, so that he had not provided lodgings; however, after looking at several sets, we fixed upon one in the Rue des Petits Augustins, St.-Germains. I was introduced to Latreille on Tuesday, and Dufresne, and saw part of the Museum. Yesterday I took the ladies. It is the finest sight that can be conceived: everything is in the nicest order, and labelled according to the modern plan, so that study is wonderfully facilitated. There is a beautiful collection of shells; one valued at sixty guineas. The birds are most beautiful and numerous; the walls of two large apartments were covered with them in glass cases. Mammalia, Reptilia, Amphibia, all equally curious. Several rooms of Fossils: the remains of fossil animals numberless and curious. How we wished for you and James Trimmer! The buildings of Paris you have often heard of: they are superior to anything we have, though King's College Chapel is unrivalled. Buonaparte's designs were grand. I have this morning seen St.-Sulpice, which strikes me more than any edifice I had before seen. I go to-morrow to Latreille, to see his own collection. We shall stay here till Monday week, when we shall return to dear old England, and our friends.

"I am,

"Yours affectionately,

"WM. KIRBY."

Translation of a Letter from Professor Germar to Mr. Kirby.

"Most honoured Sir,—Be pleased to accept my most grateful acknowledgments, not only for your valuable work, but especially for your friendly letter. This work would perpetuate your reputation as an able entomologist to all generations, even though you had not previously established it by your Monographia Apum: it is written with a degree of learning and judgment which reflect much honour on its authors, and it shall be the subject of my studies this winter, to prepare a notice of it for the public press.

"Your order Strepsiptera is a highly interesting discovery. I have collected this summer a number of the *Polistes* and *Vespa* tribe, but this insect appears to be a native of more southerly regions, and my wish to possess a specimen in its natural state has not hitherto been accomplished.....

"When you write to Mr. Spence, have the goodness to inform him that his parcel of books and insects arrived safe, but it has not yet been possible for me to examine the whole. In the meantime he will be pleased to accept my hearty thanks. In the spring he shall receive back not only the loan with my remarks, but a packet of specimens for his collection, and a copy of my journey to Dalmatia..... I know not whether you collect any other than English insects, but if you do I shall have pleasure in offering you any duplicates of mine to increase your collection, and it would gratify me much if it were agreeable to you to correspond with me in future on scientific subjects.

"I remain, &c.,

"GERMAR.

"Halle, October 25th, 1817."

Mr. Kirby about this time attended the sale of Mr. Francillon's valuable cabinet of insects.* He made some considerable additions to his treasures, though not nearly to the extent of his friend Mr. Mac Leay, who purchased little short of half the collection. Mr. W. Mac Leay thus notices the circumstance:—

"I understand from my father that you are one of the *souls* of the sale of Mr. Francillon's cabinet, giving it life, activity, and, above all,

* This cabinet sold for £725. 11s. 6d.

value. I suppose you have added extensively to your collection: as for my father, he has made his as brilliant for the amateur as it is instructive for the entomological student, but to arrange it, 'hic labor, hoc opus est.' The French Museum has been prevailed on to let my father have one of the three Hexodons, so that now he will have every described genus of Latreille's family of Lamellicornes."

In a publication entitled "Considerations respecting Cambridge, &c.," Sir James Smith attempted to establish two points connected with botanical criticism at variance with the interpretation generally given by writers upon the subjects referred to.

The first point was, that in Matthew vi. 28, where "the lilies of the field" are spoken of, the white lily was not intended, but the *Amaryllis lutea* or Autumnal Narcissus. The second point was that the Acanthus mentioned by Virgil was the *Ilex Aquifolium*, or Common Holly.

Mr. Kirby, at the request of some friends who corresponded with him upon the subject, drew up a defence of the opinion hitherto universally entertained.

He commenced his strictures by a graceful acknowledgment of the talent of Sir James Smith, but at the same time warned his readers against being led away by the renown of his friend: "Such is the frailty of human nature, and the imperfection of human science, that the greatest men have occasionally adopted imbecile theories: even Homer sometimes nods, and Plato dreams, and a favourite hypothesis often dazzles the eyes of the most quick-sighted philosopher. The *dicta sapientum*, therefore, though entitled to respect on account of the attainments of their promulgators, ought not to be received till they have been weighed in the scale of reason, and tried by the touchstone of truth. Amicus Socrates, amicus Plato, sed magis amica Veritas."

Mr. Kirby then remarks that this evil consequence of following a great name was already very apparent, from the

learned editors of "The Family Bible" having in a note* adopted this opinion, "thus weakening the effect of a striking allusion of our Saviour, by referring it to an insignificant, and not its legitimate object."†

Mr. Kirby first shows, that when Sir James Smith supposes that our Saviour instanced an assemblage of plants, and not a particular plant, he overlooks the original Greek καταμάθετε, a word which enjoins particular attention to an object, so as to know it well,—implying here that an individual was to be studied. From this, and other considerations arising from the (comparatively speaking) low and humble nature of the *Amaryllis lutea*, added to the fact of its having no stalk to supply fuel, Mr. Kirby clearly established that it had no right to the honour assigned to it by Sir James Smith.

He next removes all difficulty arising from the assertion that the lily does not grow wild in Palestine, and by an exact line of argument proves that no other than the *Lilium candidum* could be the plant intended; then in an elegant manner he sets forth its peculiar fitness for the comparison instituted by our Saviour.

As to the Acanthus, speaking of Professor Martyn's edition of the Georgics of Virgil, Sir James Smith had said,—"Nor is the subject exhausted by that able botanist. The Acanthus of Virgil is still undetermined. That it is not the ἄκανθα of Dioscorides, the supposed origin of the

* The note is this, v. 28:—"There is reason to suppose that the 'lily of the field' mentioned by our Saviour is the Amaryllis lutea, or Autumnal Narcissus. This flower is described by travellers as appearing in profusion in the fields of the countries of the Levant, and covering them in autumn with a vivid golden brilliancy; so as to admit of a peculiarly apt comparison with Solomon in all his glory."—Doyly and Mant's Family Bible.

† "Strictures," &c., p. 1.

Corinthian capital, any attentive reader of the Roman poet must perceive."

Mr. Kirby remarks upon the improbability of the Aquifolium described by Pliny, and which clearly was the Holly, having its name changed by Virgil; and shows that Professor Martyn had not left the matter doubtful, but had proved satisfactorily that Virgil had spoken of two distinct plants under the name of Acanthus,—one being the Egyptian Acacia (*Mimosa Nilotica*, L.), or the Acanthus of Theophrastus, the other the Acanthus of Dioscorides; whose leaves form the distinguishing ornament of the capital of the Corinthian pillar.

The points which Sir James Smith asserted to be in favour of the Holly, and which do not agree with the character of our *Acanthus mollis*, were these, viz., Virgil speaks of its flexible twigs, of its being evergreen, of its forming thickets, of its being clipped by the gardener in winter, and of its bearing berries.

As to the passage, "flexi vimen Acanthi," Mr. Kirby contended that flexibility was far from being characteristic of the Holly: he refuses, however, to take any advantage of this, but, following Heyne,* gives his opinion that *flexus* refers to the flexure, not to the flexibility of the plant. "Had Martyn been aware of this, he would not have been obliged to have recourse to the story, related by Vitruvius, of the origin of the Corinthian order to account for the expression." The term *vimen* seems employed to describe with more force the stalk of this plant, which, when stripped, resembles a twig.

As to the *thickets*, Mr. Kirby could of course find not a passage that hints anything of the kind; he therefore play-

* Acanthus—hic flexus quia adultior caulis reflectit se et vergit in humum.—Heyne, in Georg. iv. 123.

fully supposes Sir James Smith to have taken Acanthida dumi* for Acanthi dumi.

The clipping of the Acanthus in winter rests upon the passage,—

> "Ille comam mollis jam tum tondebat Acanthi,"†
>
> .....

The Acanthus here mentioned is shown by the context to have been a plant brought by care and attention to early maturity, for the purpose of decoration in the winter season. This opinion is still farther supported by the authority of Stapel, who proves that this was a coronary plant, whose leaves were worn on festive occasions. It is also suggested that the clipping might refer to border edges, as we clip box; for, to flower borders, "the lofty, recurved, dark-coloured leaves of the Acanthus would form no inelegant finish."

As to the fact of Virgil speaking of the Acanthus as an evergreen, and as a plant bearing berries:

> "Quid tibi odorato referam sudantia ligno
> Balsamaque, et baccas semper frondentis acanthi?"‡

The Acanthus here spoken of is shown to be the *Mimosa Nilotica*—the Acanthus of Theophrastus: the berries are conjectured to be its globular buds or blossoms; or, as Professor Martyn says, they may refer to the drops of gum that exude from it. Cicero is quoted to prove that *bacca* may be taken in an extended sense.§

The weakness of Sir James Smith's passages having been

* Georg. iii. 338.
† Ibid. iv. 137.
‡ Ibid. ii. 118.
§ De Divinat. lib. i. § 51.

shown, Mr. Kirby brings forward two others to prove that the Acanthus and the Holly cannot be the same plants.

The first is Ecl. iii. 44 :—

> "Et nobis idem Alcimedon duo pocula fecit,
> Et *molli* circum est ansas amplexus acantho."

Here "the epithet mollis (which is a translation of the ὑγρὸς ἄκανθος of Theocritus), is alone sufficient to prove that the plant in question cannot be the Holly, since nothing can be more opposite to this term than the rigid and almost inflexible foliage of that plant."*

The other passage is in the Pollio :—

> "At tibi prima, puer, nullo munuscula cultu,
> Errantes hederas passim cum baccare tellus,
> Mixtaque ridenti colocasia fundet acantho."†

The word *fundet* Mr. Kirby says is here employed "to express that the plant springs up with luxuriance, and rapidly : the epithet *ridens* seems a happy allusion to its use on festive occasions as a coronary plant,—an idea which receives strong confirmation from the circumstance that two of the other plants here mentioned, if not the third, are of that description. Had Virgil been here speaking of the Holly, a plant of slow growth, he was too judicious and select in his language to have employed terms strongly expressing a contrary character."‡

This paper was first communicated to the "Christian Remembrancer," a publication which had been then recently established. Through some misunderstanding, a material

* Strictures, &c. p. 11.
† Ecl. iv. 17.
‡ Strictures, &c. p. 11.

portion of the paper was omitted, but it was subsequently printed complete in a separate form.*

It was with no small satisfaction that Mr. Kirby learned that his observations met with the unqualified approbation of the first classical authority at that time in the University of Cambridge:† it was with no less gratification that he found that he had not in any way interfered with the good feeling which had for many years existed between Sir James Smith and himself.

To convey any adequate idea of the extent of Mr. Kirby's friendships estimated numerically, or from the attachment which formed the bond of union, would far exceed the limits of this Memoir; the greater part of this must be inferred from indirect sources: there was, however, one, whose friendship, commenced at school, had continued through every subsequent stage in life,—Mr. Lathbury, whose name he frequently mentioned with respect in the papers contributed to the Linnean Society, and who in turn thought he could never employ his leisure hours to greater advantage, or with more real pleasure, than in assisting Mr. Kirby in his scientific labours.

This worthy man was seized with a painful disorder, which, though it diminished not his strength or vigour, yet told him that his days were short: he wrote July 28th, 1820, to Mr. Kirby:—

"It is twenty days since I had the comfort of sleeping in bed or enjoying a recumbent posture; yet have I been mercifully and tenderly dealt with; for I have been tranquil, resigned, and happy,—waiting, like a missionary destined for a far country, for the change of wind and tide, for the summons when I must bid adieu to my domestic circle, with the soothing reflection that though I return not to them,

* Strictures on Sir James Smith's Hypothesis, &c. Rivington, 1819.

† The Regius Professor of Greek.

they may rejoin me. I will please myself with the probability of telling thee in my next, dear Kirby, that I am progressively better, or otherwise ask thee, as the urgeney of the case may be, to come to me as the minister of God, and the firm friend of P. Lathbury."

Not many hours after this, his painful disorder assumed the most fearful symptoms, and his friend was called to bid him a last farewell, and, as he intimated in his letter, to administer to him the Christian's source of comfort,—the Holy Communion. Unwilling that the character of his estimable friend should be unappreciated or forgotten, Mr. Kirby drew up a sketch of his life, and inserted it in the "Christian Remembrancer:" he there notices this closing scene in the following terms:—

"The writer of this article, who was one of his old friends, saw him at this time, and had the satisfaction, at his request, to administer the Sacrament of the Lord's Supper to him, and all his nearest and dearest connections. All were edified on this occasion by the piety, constancy, resignation, and trust in God through Christ, which this good man exhibited on the bed of death. When the writer of this took leave of him the day before he died, his last look was a smile, which, like a sunbeam, gilded his countenance, and told the peace and love that reigned within.

'Sic mihi contingat vivere, sicque mori.'"*

* The Reverend Peter Lathbury, LL.B., Rector of Livermere, in Suffolk, was educated at the Grammar School at Ipswich, and graduated at Clare Hall, Cambridge. While he was active and zealous in his duties in his parish, he devoted himself with much zeal to the study of natural history, and had been from an early date a Fellow of the Linnean Society. Mr. Lathbury died in August 1820, in the 60th year of his age.

CHAPTER XVIII.

Correspondence.—William Holme.—Captain Sabine.

Mr. Holme to Mr. Kirby.

"Preston, Oct. 20, 1820.

"Reverend Sir,—I have taken the liberty of addressing you on the subject of Entomology, a branch of Natural History to which I am very partial, and in which I spend the greater part of my spare time; and, having purchased the first two volumes of the 'Introduction to Entomology,' by you and Mr. Spence, am become acquainted with your knowledge of that department. You will, I hope, pardon me for presuming to trouble you, as I am only a poor man of little learning, by trade a cotton-weaver, with a wife and a family of small children; but, having always possessed a particular taste for Natural History, have made myself acquainted with many of the natural productions of this neighbourhood. Botany being my first study, I got a systematic knowledge of most of the indigenous plants around me; but, having exhausted the neighbourhood for amusement in that way, I commenced the study of Entomology and Conchology, but Preston not being a maritime town, I soon exhausted the latter. I am the most charmed with Entomology, and have studied it above five years; but as C. Stewart's 'Elements of Natural History' is the only work I possess, except the volumes above mentioned, I find myself much at a loss, having many insects I cannot make out, and some of which I suspect are not described in that work. I have many specimens which I should like to send to you for your inspection, and should esteem it both a great honour and favour if you would condescend to name them. I have not yet collected any insects but such as I can without distortion transfix with a very small pin; yet I should be glad to send you any microscopic or other species which I can procure. I think the best plan would be to number the species I send you, and keep duplicates at home numbered in the same manner, and

this would preclude and save the expense of back-carriage. I have observed insects to be a very local class of animals, both as to seasons and situation; for the *Coccinella septempunctata* I never saw till the last year, when I found two, and this year it is extremely scarce. There has been a species of *Scarabæus* very common this year at Lytham, twelve miles from Preston, which I never saw before. The *Papilio Semele* is very common every year at the same place, though never seen at Preston. *The Papilio Cardui* has been extremely common this year, though the last I never saw one. The *Sphinx Statices* I have found in plenty this year, though I had never seen the insect before; but they were confined to a very small boggy meadow. When must I expect the remainder of your work to be published?

"An answer at your earliest opportunity, with some instructions, and how to send to you, will very much oblige,

"Reverend Sir,

"Your most devoted and obedient servant,

"WILLIAM HOLME."

The case of the writer of this letter pleads forcibly in behalf of museums and local institutions of the kind placed within the reach of mechanics. Though perhaps there may be few of precisely the same turn of mind as William Holme, yet those who have never made the inquiry would be astonished to find the number of mechanics devoted to science in some or other of its branches. Whether William Holme ever made any other use of his studies than to gratify his own taste, I have not been able to ascertain. I have to regret, also, that I am unable to do more than leave the reader to imagine the readiness with which Mr. Kirby replied.

Mr. Holme to Mr. Kirby.

"64, Church Street, Preston, Jan. 1821.

"Reverend Sir,—I received your kind and welcome letter, for which I return my sincere thanks, and more especially as you have afforded me an opportunity of sending a few insects for the inspection of the first entomologist of our country. I have not kept an entomological journal; consequently my remarks are few and simple

compared to what I have read in your valuable book. However, I will point out some peculiarities, and state a few observations which I do not recollect to have seen in any work on the subject. First with respect to the specimens enclosed.

"My No. 1 is the *Scarabæus* I mentioned as being common at Lytham last year: I think it is *S. Frischii*.

"No. 12 breeds in rotten stumps [*Melandrya caraboides*].*

"No. 51 I found upon *Salis caprea* [*Galeruca Newtonii*].

"No. 52 upon *Carduus arvensis* [*Chrysomela 5 jugis*].

"No. 54 always upon *Heracleum spondyllium* [*Chrysomela nitidula*].

"Nos. 88 and 106 found on old walls [*Apis bicornis* and *Vespa muraria*].

"No. 107 found in great numbers in sand-banks Sept. 1816, but since then I have not seen ten of them [*Crabro cribrarius*].

"No. 151: I found the caterpillar in May at the foot of an oak; it changed without eating to a brown pupa: the moth came forth in October [*Noctua aprilina*, green variety].

"You notice the scarcity of *Papilio Antiopa*, which confirms what I had previously seen mentioned by Lewin, before I received your letter. I had been indulged with a peep into his work on British Butterflies, where the author hesitates not to affirm that this species has sometimes disappeared in this country for forty years together.

"Sept. 7th, 1817.—About 9 o'clock in the morning I was very agreeably surprised by seeing vast numbers of the *Notonecta glauca* and *stricta* emerge from a pit of water, and, leaving their aqueous element, wing their way in a north-westerly direction. This flight continued in my presence about fifteen minutes, when the numbers began to decrease, and in about half an hour not one was to be seen. What seemed to me the most remarkable, was their particular route; but, as they are naturally inhabitants of the water, I thought it might be to avoid the glaring sun as much as possible, which was then south-east.†

"In January 1818, whilst I was digging for some lepidopterous pupæ beneath the foot of a tree, I turned up the *Carabus violaceus*, and, taking the beetle into my hand to blow the dirt from it, I found myself affected in the same manner described to you by the Rev. Mr.

* The names included in brackets were written by Mr. Kirby upon the weaver's letter.

† The fact to which Mr. Holme was witness, of the emigration of Notonecta, is very important and curious.

Sheppard, of Liverpool,* as if some burning liquid had been sprinkled on my face, which caused a painful sensation that lasted for a considerable time.

"The same day, having got the *Carabus cupreus*, and attempting to transfix it with a pin, holding it at the same time exactly under my nose, it discharged a sort of vapour, which caused me to sigh, as if I had snuffed the vapour from a smelling bottle, that prevented me proceeding for some seconds.

"The voracity of some beetles is astonishing. In the early part of last summer I had got a number of small bees (my No. 96) which burrow in sand, and one specimen of the *Cicindela campestris*: they had all pins through them, which stuck into the cork wood of my box; but the beetle wrenched the pin from the cork, and devoured seven of its companions, extracting and eating the internal part of the abdomen of each bee, so that there only remained the head and thorax of some, whilst others retained the shelly part of the abdomen.

"I think the beetles—my No. 13 (*Pimelia mortisaga*, I think)—may be kept alive a long time without food in a damp cellar, or any other moist situation. But it is probable there is a misrepresentation in Mr. Henry Baker's account of the *Pimelia* or *Blaps mortisaga*, who says it has lain whole nights in spirits of wine, and kept three years without food, and at last has made its escape.

"I have been lately struck with a singular circumstance in the transition of the pupa to the imago state in the *Papilio* genus. I fed some caterpillars of the *P. Brassicæ* and *P. Rapæ*, and observed that their feet, as is natural where attached to the side of the box, on changing into their pupa state, continued motionless their regular time; but I can scarcely express my surprise, on seeing the imagos emerge, to find their feet in an exactly opposite direction to those of their respective larvas."

Then follows a list of the butterflies which he had taken.

"Since I received your letter, a gentleman has kindly lent me Haworth's 'Lepidoptera Britannica,' and Marsham's 'Entomologia Britannica of Coleoptera.' Haworth, in his Addenda, mentions eleven species of butterflies as doubtful natives, amongst which is the

* He confounds Mr. Sheppard, Curator of the Botanic Garden at Liverpool at that time, with the Rev. R. Sheppard who lived in Suffolk.

P. Mægera. There is a butterfly very common here that I have always considered to be that species; it answers the description in Stewart's 'Elements of Natural History,' and I have sent you a specimen to name. He likewise, in his preface, at p. 24, says:—'In the largest species of Lepidoptera the greatest variety in size is seldom more than a few lines, and in the smaller species proportionably less.' On this account I have sent you very dwarf specimens of the *Papilio Napi* and *Phalæna grossulariata.*

"In Marsham I find no description of the *Scarabæus bilobus* and *Cicindela hybrida.* I have sent you the species which I take to be these, and will thank you to name them.

"As to land and fresh-water shells, I believe our neighbourhood is very barren in these productions, for what I have found are of the commonest species; but have with great pleasure sent you such duplicates as I could put into the box, with a list of nearly all that I have found: but perhaps I shall not be correct in all their names.

"*Solen ensis.*—This shell is reckoned very scarce by conchologists, and also by the shell-dealers at Liverpool. A friend of mine asked the price of a specimen when there; but, to his great surprise, they had the assurance to demand three shillings, though, a very few years ago, these shells had been thrown upon the beach at Blackpool (a noted watering-place twenty miles west of Preston) in such quantities as to be carted upon the land for manure.

"I have sent you a collection of such mosses as I have found in our neighbourhood, hoping they will not find you without a taste for Muscology. My searches after these minute vegetable productions, to which I am still much attached, first led me to the delightful little beings which now occupy so many of my vacant hours.

"When you write, have the goodness to enclose your letter in the box; it will reduce the back-carriage. If you have a few cast-away duplicates to enclose, they would be extremely acceptable, as coming from your cabinet; let them be good or bad, common or uncommon, they would be gratefully received.

"I have many other nameless duplicates, but I did not like to trouble you with too many common species.

"I wish that I might ever have the good fortune to speak to you personally.

"I am, Rev. Sir,

"Your most obedient and devoted servant,

"WILLIAM HOLME."

I must conclude the correspondence of this genuine lover of Natural History with his letter of thanks to Mr. Kirby on receiving his box. I have given the letters verbatim as they are written, without addition or omission, with the exception of one or two letters, which I have supplied in unimportant words.

Mr. Holme to Mr. Kirby.

"Reverend Sir,—I received the box containing presents particularly instructive to me, and which convince me of many former errors. Be pleased to accept my sincere thanks for the liberal and familiar manner in which you have been pleased to condescend to communicate such knowledge. You very fortunately sent me some species of insects which I had without names, and some that I made out to be other species. I have collected many microscopic, and some other Coleoptera, since I received your first letter, and could wish, at some future time, to send you another collection, wherein I should include some of those species you pointed out as new, but am sensible that our great distance will not admit of such correspondence; for I am sorry to think that I have put you to so much trouble and expense, for which I can only return you my sincere thanks for the present. Have the goodness to give my sincere thanks to the gentleman who assisted you in naming many of my Lepidoptera; and also to Mr. Sheppard, for his collection of shells; and tell him that I have found several species of land and fresh-water shells since I received your kind letter, but most of them seem to correspond with the duplicates which he sent me, and which appear to be *Tellina cornea*, twice or thrice as long as those he sent, and another very small species of *Tellina;* also *Helix fontinalis, hypnorum, tentaculata, planorbis, fossaria*, and *putris*, and a very small *Turbo*.

"*Curculio scrophulariæ* is to be found upon every plant of the *Scrophularia aquatica*, yet I never saw the species before. The *Leptura attenuata* is very plentiful this year, though in general scarce. I took one of the *Papilio Quercus* this month, which is new to me. Am rather confident that I have got four of the *Noctua bractea*, with many other elegant species of *Phalænæ*, also new to me. In last autumn and winter, the caterpillars of *Bombyx Caja* have been in the most extreme numbers, and so are the caterpillars of *Papilio Urticæ*. The *Geometra grossulariata* this year is far more numerous than ever I saw it. The

Tipula Oleracea is also exceedingly numerous this year, so as to be very troublesome in our houses.

"Reverend Sir, as I have nothing more particular at present to add, I must conclude by observing that it would give me great pleasure to send you any further account of any of my simple observations of insects, if requested.

"I remain,

"Your most obedient servant,

"WILLIAM HOLME.

"A few lines from your instructive pen at any convenient opportunity would be gratefully received."

Capt. Sabine to Mr. Kirby.

"60, Margaret Street, April 2, 1821.

"Dear Sir,—1. The *Bombyx Sabini** was brought to me by my sergeant from a part of Melville Island which was very swampy. I saw it once myself on the wing.

"2. Three or four specimens of the caterpillar were taken: the one you have I found myself, apparently *wandering;* the nearest plants were *Salix arctica?* and *Saxifraga oppositifolia.* I caught it, and tried a variety of leaves; but it eat nothing, and died.

"3. The *Bombus arcticus* was very abundant at Melville Island, and was seen wherever we landed elsewhere within the arctic circle. I have killed half a dozen in a few minutes.

"4. The *Ctenophora Parrii* is the insect I alluded to as Fabricius's *Culex pipiens.* I never heard any one complain of annoyance from the bite of musquitoes at Melville Island. My tent was pitched near a pool of fresh water, which, on a fine afternoon, abounded in the insects of which I sent you a specimen; they made their way frequently into my tent, but I was never troubled by them, and I am particularly so by musquitoes. Except the insects of which you have specimens, none were seen by the Expedition at Melville Island.

"The spiders were abundant, all of one species, which leapt like a

* The insects mentioned in this letter are those referred to in p. 339.

flea: I have seen them do so often. I have always found them running over plants on the ground.

"Small as is the number of species of insects which we brought away from Melville Island, I am disposed to believe few, if any, escaped. We lived, during the three principal summer months, on shore, and had amongst us three or four very assiduous collectors of plants, who would not have overlooked an insect, and were likely to meet with them in their occupation. We were much surprised and disappointed by not finding a greater variety.

"Both Captain Parry and myself are much obliged to you for your kind attention and assistance. Have you a collection of marine animals? If so, perhaps I might be able to send you a few specimens which may be acceptable.

"Dear Sir,

"Very faithfully your obliged,

"EDWARD SABINE."

CHAPTER XIX.

Papers published in the Linnean Transactions.—Attempt to establish an Entomological Society.—Formation of the Zoological Club.—Mr. Kirby's opening address.—Papers published on various subjects of Entomology, &c. &c.

THE part which Mr. Kirby took in the preparation of the second and third volumes of the "Introduction," would amply account for his time at this period. He still, however, contrived at intervals to prepare papers for the Linnean Society, and for publications devoted to Natural History. In this chapter I propose to give a short account of these, between the years 1822 and 1826, with a notice of the circumstances that called them forth.

Mr. W. S. Mac Leay, as is well known, had done much towards establishing it as a necessary point to be kept in view in Natural History, more especially in Entomology, that relationship of affinity and analogy should be carefully distinguished. In a paper read before the Linnean Society, Dec. 17, 1822, Mr. Kirby dwells upon the pleasure which the naturalist derives from having to master the difficulties he meets with in distinguishing species which wear the habits, and assume some of the characteristics, of a tribe to which they do not belong, as may be ascertained, he remarks, by careful investigation of their more essential characteristics: the difficulties, though such as to call forth perseverance, are not insuperable, for Mr. Mac Leay "has furnished the naturalist with a clue,

which, if heedfully followed, will enable him to guide himself through all the intricacies."*

In confirmation of the doctrine of Mr. Mac Leay, three new genera of insects are in this paper described.

The characters laid down for the first, *Catascopus*, might easily lead to its being mistaken for a species of *Notiophilus* of Duméril, or as belonging to a cognate genus.

An inspection of the labium, the antepectus (free from puncta), the size of the head, neck, and legs, shows that it approaches to the *Harpalidæ*. Then, again, it is pointed out that "the great majority of the *Carabi* of Linné are remarkable for a notch on the inner side of their anterior tibiæ, armed at its upper angle by a spur:" this appears to be of use to them in taking or retaining their prey, and, by its particular character, the genuine affinities of *Catascopus* are distinguished. "In the *Harpalidæ*, and many others, this notch is nearly in the middle of the tibia; but in *Notiophilus* and its affinities its situation is close to its apex."†

The conclusion to which these comparisons lead, is that *Catascopus* has a relation of affinity with the *Harpalidæ*, but merely that of analogy with the *Elaphridæ*, which at first sight it most resembled.

A comparison is then briefly instituted with insects of another tribe, viz. those which constitute Latreille's first section of *Carabici*: an examination of its labium shows that it comes nearer to the *Harpalidæ*. Mr. Kirby suggests that some master in Entomology might one day make a new arrangement of *Carabus* L., in which case the *Harpalidæ* and this section might be brought closer together, *Catascopus* connecting them.

* Linn. Trans. Vol. xiv. p. 94.

† Ibid. p. 96.

The only species described is named after General Hardwicke. In the genus which has been under consideration, although there was sufficient to lead one to refer the insect to a different section from that to which it really belonged, yet it was easy to perceive that it was one of the *Carabi* of Linné.

With respect to the next genus, *Pseudomorpha*, the case is somewhat different, for "even a practical entomologist, if he chanced to examine a specimen that had lost its antennæ, might at first regard it as a *Nitidula* or *Ips* F., or as coming near that genus in the system."* The essential diagnostics of Latreille's *Entomophagi* are pointed out in this insect, viz. six palpi, and the trochanter forming a fulcrum to the posterior thigh; also the same kind of labium, mentum, and maxillæ, and the remarkable notch in the inside of the anterior tibia, which distinguish the *Carabici* of Latreille.

The characters which form a stumbling-block in ascertaining this genus are its sessile wide head received into the thorax, and its short antennæ and legs.

A difficulty arose as to assigning it to its proper section: —"Many links remain to be discovered before we can connect this remarkable and puzzling genus with any one at present known." Mr. Kirby suggested that it had the greatest affinity with *Scolytus* Fab.

The next genus described is *Mimela*, which so closely assumes the appearance of *Areoda*, that it might easily be taken for a small specimen of *A. Leachii*. The colour, the sculpture of the head, thorax and elytra, its distinct nasus or clypeus, its labium, labrum, maxillæ, and legs, would all tend to this conclusion.

The characters in which *Mimela* agrees with Mr.

* Linn. Trans. Vol. xiv. p. 100.

Mac Leay's *Euchlora*, and differs from *Areoda*, are then given, from which comparison it appears that—

In *Mimela* and *Euchlora* the mandibulæ are concealed under the nasus.

In *Areoda* they are visible, and are destitute of the dorsal process observable in *Rutelidæ*.

In *Mimela* and *Euchlora* there are nine joints in the antennæ.

In *Areoda* there are ten.

In *Mimela* only the tip of the last dorsal segment of the abdomen is uncovered by the elytra.

In *Areoda* the segment itself is uncovered.

Mimela has an elevated prosternum, and a metasternum with a very short anterior mucro, so as to leave the mesosternum visible.

Areoda has the prosternum invisible (without dissection), and the mesosternum covered by the anterior mucro of the metasternum.

Mimela has the abdomen lævigated.

Areoda has the abdomen covered with an infinity of minute punctula.

Mimela, although in essential character agreeing with *Euchlora*, is shown, however, to differ sufficiently to form a sub-genus.

Mr. Kirby concludes his notice of this genus with the following important and interesting observation :—

"I shall here mention one very remarkable circumstance, noticed by no writer that I have met with, which distinguishes the mandibulæ of the tribes *Melolontha* F..... The molary part, or that which appears destined to comminute the food, is an orbicular or subquadrate flat plate at the inner base of the mandibles, scored into numerous alternate transverse ridges and furrows. When the mandibles are open, the food, after it has been divided by their apex, must pass between these plates, which, supposing that the ridges of one mandible are received by the furrows of the other, as is most

probably the case, must have vast force in comminuting the food, not so much by the friction of the plates, since that could scarcely take place, in consequence of the above structure, but from their pressure and the action of the sharp ridges. The mandibula, indeed, is particularly fitted for this double office, the upper part being thin and adapted to cutting, and the base vastly thick and strong, as if its office was great pressure. At the base of the mandible in the genus before us, but not in all, there are other short furrows, forming an acute angle with the transverse ones, and opening into the gullet. In the *Dynastidæ* Mac Leay, the molary space is visible, but is smaller, and has fewer furrows. In *Dynastes Enema* it has only two obtuse ridges and as many furrows, and appears evidently calculated to masticate, but more grossly, a harder substance than is submitted to the action of the mandibles of *Melolontha* F. . . . . .

"From this account it seems, I think, evident, that a modification of the three kinds of teeth of vertebrate animals is to be found in these tribes as well as the Orthoptera, in which Marcelle de Serres detected them; for we find the incisores at the apex of the mandible, the molares at its base, and the laniarii at the apex of the maxillæ,—though with respect to these last, I believe their primary use in very many insects is to hold the food for the action of the mandibulæ."*

The paper concludes with a description of an insect of another order, which, though not strikingly illustrating Mr. Mac Leay's theory, yet claimed a place as partaking of the characteristics both of *Agrion* and *Lestes*. It was named *Agrion Brightwelli*, "in honore D. Brightwellii, Norwicensis, insectorum collectoris indefessi, felicis; indagatoris acuti, docti."

A plate accompanied the paper, drawn by Mr. Denny, and executed by Mr. J. Curtis.

On the 12th of July, 1822, Mr. Kirby took, upon a hazel, a caterpillar, which nearly resembled, but not altogether, that of *Bombyx Camelina*. He was disappointed in not bringing it to perfection, but was much consoled by

* Linn. Trans. Vol. xiv. p. 105.

obtaining from it a new species of that singular tribe of parasitic Hymenoptera constituting the genus *Eulophus* of Geoffroy.

This discovery Mr. Kirby communicated to the Linnean Society, in a paper read December 17, 1822.

The caterpillar is described as having sixteen legs, the membranaceous ones, or prolegs, being armed with a semi-coronet of hooks. The colour was green, with two lateral pale-yellow longitudinal stripes, the spiracles or breathing pores being in the lower one.

On the last segment but two, which was gibbous, it was armed with a pair of rose-coloured rather hairy horns, or papillæ. On each segment of the body was a transverse series of longish black hairs.

After a lapse of seven days, seventeen parasitic larvæ came forth from the caterpillar. They were conical in shape, the head being truncated, the other end acute. They were of a pale-green colour, and besmeared with a kind of varnish or gluten, by which they were enabled to adhere to the lid of the box the caterpillar was in, around the exuviæ of which they arranged themselves. About the 23d they had assumed the pupa, which was of the angular kind, and from green had changed to a ferruginous or reddish-brown colour. On the 1st of August the fly appeared: four escaped from the box, but twelve females and one male remained.

After a very careful description of both sexes of this insect (*Eulophus damicornis*), Mr. Kirby concludes with the observation—

"This species is very similar to *E. ramicornis* (of which, as well as of *E. pectinicornis*, I possess British specimens), their principal distinction being the white spot in the base of the abdomen."*

* Linn. Trans. Vol. xiv. p. 113.

Were we to institute an inquiry into the state of Entomology as it existed in the commencement of the present century, and then to trace its progress, we should probably find that this science has made more rapid strides than any other, in a corresponding number of years. When Mr. Kirby entered upon the study, the only acquaintance he had who could afford him any assistance was a friend who had brought his knowledge from a foreign land. Even after he became acquainted with Mr. Marsham, who was in a position to introduce him to most of the naturalists eminent in that day, his friends who studied insects were few in number, and widely scattered. Notwithstanding the acknowledged merit of the "Monographia Apum Angliæ," and the warm reception it met with on the Continent, there were not found a sufficient number of purchasers to pay the cost of publication.

The state of Entomology is, at a later date, not less plainly marked in the preface to the "Introduction," where it is spoken of as a science which, "in nine companies out of ten with which a man may associate, promises to signalize him only as an object of pity or contempt." The question is afterwards asked,—on the supposition that a man would seek only his own amusement, and only ask for some one to enter into his views,—"how can he look for sympathy in a pursuit unknown to the world, except as indicative of littleness of mind?"

To point out the part which each Entomologist of the day took in rescuing a branch of natural history so instructive as this from the neglected state in which he found it, would be interesting, but beyond our present purpose. It is sufficient to note, that the steps taken in fartherance of this object were most rapid in their effects. In the course of seven years from the foregoing remark being made, there were in London and its vicinity a sufficiently large number

of men devoted to Entomology* to suggest the formation of a Society, for the express object of collecting and disseminating information on matters connected with the science. Those who were most active in this movement saw how essential it was, in order to their obtaining a good reputation among kindred institutions, to gain the sanction of Mr. Kirby, who now enjoyed a title of precedence amongst Entomologists,—a distinction which he had acquired, not more from the learning displayed in his writings, than from the urbanity of his manner, and the encouragement which he afforded to every one who sought his assistance or advice.

With the caution which characterised him in every step in life, he hesitated to accede to the proposal made to him in terms so flattering, that they might readily have suggested to an ambitious man an easy road to yet higher honour and renown. What he considered to be the true interests of science weighed with him far more than any prospect of self-advancement. His reasons for not at once entering into the plan proposed, may be gathered from a letter addressed to him by Mr. Vigors, in the hope of removing his objections.

Mr. Vigors to Mr. Kirby.

"Chelsea, October 1st, 1822.

"My Dear Sir,—I waited a few days before I answered your letter of the 20th of last month, in order to have an opportunity of consulting some of the members of the Entomological Society in relation to your queries: I should not otherwise have delayed a moment expressing my candid concurrence in your sentiments. The establishment which you suggest of separate committees in the Linnean Society to attend to the separate branches of natural history, and the publication of a Naturalist's Journal, which would include all

* It is said that there are now upwards of 1500 persons known to pursue the study of Entomology, in Great Britain and Ireland.

that intelligence which does not accord with the general plan of the Linnean Transactions, is not only most desirable of itself, but particularly so as it would supersede the necessity of forming contemporary societies, which might interfere with the interests of the parent one. Such a plan would embrace all the leading and more important objects that were aimed at in the establishment of the Entomological Society. I need not point out to you, who are so well acquainted with the state of entomological science in this country, the absolute necessity there is for promoting the cultivation of it by some more effectual means than at present exists. . . . . There is no way by which we can obtain an insight into the discoveries of our contemporaries, or ascertain the actual progress of the science. . . . . It was to obviate these deficiencies that the idea of establishing an Entomological Society first suggested itself, which, by friendly and constant intercourse between the members, could communicate that information which is wanting, and effect as a body what individuals could not accomplish. There is besides, I understand, a considerable mass of subjects lying undescribed and unnoticed in the cabinets of this country, and a great portion of local information connected with entomology which could not otherwise be brought to light than through the medium of a society exclusively devoted to the science, and publishing a journal in a cheap and popular form. The Linnean Transactions, as you are aware, cannot embrace these objects: they come out at intervals too distant for the constant diffusion of knowledge that is necessary; they are too costly for general circulation; and are devoted to subjects too important to take in that subordinate but still valuable mass of information that is fitted only for the pages of a periodical journal. Composed, also, of original papers alone, they could not take in the already-published discoveries of others, or allude to the system or mode of arrangement established on the Continent or elsewhere, the communication of which is indispensable for the advancement of the science, but not consistent with their own regulations.

"Now the plan of which you have sketched the outline takes in all these desirable objects, and I sincerely hope it may be brought to bear. You may always reckon upon my cordial co-operation and assistance, as far as is in my power. Should it be established, there would, of course, be no necessity for commencing the labours of the Entomological Society, which, under these circumstances, would become but a club or friendly meeting of a few collectors. . . . . .

"On the other hand, if you should fail in your object, I hope you

will not refuse your concurrence in the plans of the Entomological Society. I really do not see how they can interfere with those of the Linnean. If there should be any particular in which their interests would clash, it only remains to be pointed out by you in order that it may be obviated. . . . . .

"The final settlement of the affairs of the Entomological Society will take place November 29—Ray's birthday. At present, the Society is quite in an infant state: it consists of about eighteen or twenty members, who meet together on alternate Tuesdays *pro formâ*, and talk over its probable success . . . . . .

"Believe me, my Dear Sir,

"Yours sincerely,

"N. A. VIGORS."

The projected Society did not at the time named assume the form which was contemplated. Perhaps the temporary abandonment of an institution exclusively entomological prepared the way for one to be eventually established on a firmer basis, by making the study of insects yet more attractive, and by engaging the attention of those who had adopted other branches of natural history. This was likely to be the case from the establishment of the Zoological Club, which was projected about this time: to a certain extent it supplied the want lamented in Mr. Vigors' letter. In some material points it corresponded with Mr. Kirby's suggestion.

The first meeting of this Club was held on Ray's birthday, in the apartments of the Linnean Society. It was composed of members of the Society devoted to zoology and comparative anatomy. It had not at its foundation any publication of its own, but submitted all original communications to the Council of the Linnean Society.* On the auspicious day of its first meeting, Mr. Kirby occupied the chair, and in that capacity delivered an opening address explanatory of its object, and setting forth the advantages which might be anticipated from its esta-

* This Club was the foundation of the present Zoological Society.

blishment. In this address Mr. Kirby did not neglect the opportunity of expressing a hope of seeing his long-cherished desire of an indigenous Fauna accomplished, – a work which, he remarked, ought to stand high with every patriot zoologist. He compared the progress of botany with zoology, and assigned as a probable cause of the favour which the former had obtained beyond the latter, the fact of plants being generally the first to attract attention. Another cause which must ever hinder a Fauna undertaken by individual enterprise, was, it was pointed out, the vast number of indigenous species of invertebrate animals which exist. "Vita brevis, ars longa:" admitting this in its full force, Mr. Kirby reminded his audience that "Vis unita fortior." Great encouragement was given to observers of the economy of animals, to report the fragments which might come under their notice, especially respecting their food and habitats, and errors pointed out which had arisen from a neglect of attention to this caution.

The members of the Club were invited to aim at something higher than ranking merely among collectors, or being satisfied with having ascertained the names of species;— the example of Mr. W. S. Mac Leay was set before them as one worthy of imitation; the great advantage was pointed out which would accrue to the science, if, in the description of animals, they elucidated natural groups.

"When we are engaged in the study of animals, and more especially of groups of them, it is of the first importance, if we would avoid mistakes, that our attention should be kept alive to what the friend lately alluded to* has said on the subject of affinity and analogy. By his judicious observations on this subject he has opened a new door to the temple of Nature, and taught us to explore her mystic

* Mr. W. S. Mac Leay.

labyrinth, guided by a safer clue than we were wont to follow. And whoever casts even a cursory glance over her three kingdoms, will everywhere be struck by resemblances between objects that have no real relation to each other. He will see on one side dendritic minerals, on another zoomorphous plants, on a third phytomorphous animals; and amongst animals themselves he will see numberless instances of this simulation of affinity where the reality of it does not exist. From this part of the plan of the Creator we may gather, I think, that every thing has its meaning as well as its use."

By attention to this doctrine of affinity and analogy, as enunciated by Mr. Mac Leay,* and here so ably sketched

* The theoretical difference between affinity and analogy is thus explained by Mr. Mac Leay :—"Suppose the existence of two parallel series of animals, the corresponding points of which agree in some one or two remarkable points of structure: suppose also that the general conformation of the animals in each series passes so gradually from one species to another as to render any interruption of this transition almost imperceptible. We shall thus have two very different relations which must have required an infinite degree of design before they could have been made exactly to harmonize with each other. When, therefore, two such parallel series can be shown in nature to have each their general change of form gradual, or in other words their relations of affinity uninterrupted by anything known; when, moreover, the corresponding points in these two series agree in some one or two remarkable circumstances, there is every probability of our arrangement being correct. It is quite inconceivable that the utmost human ingenuity could make these two kinds of relations tally with each other, had they not been so designed at the Creation. A relation of analogy consists in a correspondence between certain parts of the organization of two animals which differ in their general structure. In short, the test of such a relation is barely an evident similarity in some remarkable points of formation, which at first sight give a character to the animals, and distinguish them from others connected with them by affinity, whereas the test of a relation of affinity is its forming part of a transition continued from one structure to another by nearly equal intervals."—Philosophical Magazine, vol. lxii. p. 195; see also Horæ Entomologicæ, p. 362.

by Mr. Kirby,—the ground upon which modern sceptics have raised a building, specious at first sight, is not only removed from under them, and the fabric overthrown, but on the self-same foundation is erected a structure, attractive as it is firm, and beautiful as it is indestructible.* "When we survey the whole series of natural objects, and find throughout a system of representations, as well as a chain of affinities, it is clear as the light of day that an infinite Intelligence must have planned, an Almighty hand then executed, and that infinite love still sustains the whole."†

Having pointed out the advantage of studying the geographical distribution of animals, and the absolute necessity of paying attention to comparative anatomy,—a well-merited tribute being bestowed upon our countryman Hunter,—Mr. Kirby concluded his address: "There is one other and great object which ought to stand first with every naturalist or association of naturalists, the mention of which cannot with any propriety be omitted by *me*, especially upon the natal day of an illustrious Englishman, the father and founder of Natural History in this our country, whose delight it was to celebrate 'The Wisdom of God in the Creation,'—that great object is the glory of the Omnipotent Creator. 'Finis creationis telluris,' says the immortal Swede, 'est Gloria Dei ex opere naturæ per hominem solum.'"

* Many specious theories have been grounded upon the system of Lamarck, which may be seen in his "Philosophie Zoologique." He conceived that there was originally no distinction of species, but that each race has, in the course of ages, been derived from some other, less perfect than itself, by a spontaneous effort at improvement; and he supposes that infusorial animalcules, spontaneously formed out of organic molecules, gave birth by successive transformations to all the animals now existing on the globe.—Vide Roget's "Bridgewater Treatise," vol. ii. p. 638; compare also the theory propounded in "Vestiges of Creation."

† Fraser's Magazine, vol. xii. p. 422.

"We fulfil this great end when we ascribe to Him the glory of his works; and more especially when, setting aside as much as possible every false bias, our great aim is to discover the *truth* of things, their real nature and relations. And may we all, with patient assiduity, walk in this path; 'and, proving all things,' may we finally 'hold fast that which is good.'"

At the conclusion of the address, Joseph Sabine, Esq. was elected Chairman for the ensuing year. At the expiration of his year of office, Mr. Kirby was elected to the post. The request that he would accede to the wish of the members of the Club was communicated in the following letter:—

"Chelsea, December 2, 1824.

"My Dear Sir,—..... You were unanimously elected Chairman of the Zoological Club for the ensuing year. I hope that we may not be disappointed in the expectation of your occasionally filling the chair, as your health and convenience will permit. Your name, however, will be of itself most important to us. I mentioned your intention of favouring the 'Zoological Journal'* with a communication, to the conductors of that work, who request me to return their best thanks. They would be glad to hear any observations from you respecting the mode in which it is, or might be, carried on; every suggestion of yours would be most acceptable, and attended to with the strictest care.....

"Believe me, my Dear Sir,

"Yours very sincerely,

"N. A. Vigors.

"P.S.—I am about to describe a beautiful *Phanæus* in the next No. of the Journal, to which, with your permission, I shall affix your name."†

* This periodical was commenced in March 1824, and was then conducted by Thomas Bell, Esq., F.L.S.; J. G. Children, Esq., F.R.S. and L.S.; James de Carle Sowerby, Esq., F.L.S.; and G. B. Sowerby, Esq., F.L.S.

† *Phanæus Kirbii.* Mr. Vigors says:—"I have named this insect in honour of the distinguished author of the 'Monographia Apum Angliæ,' whose experience and valuable instructions have been among

On the 16th of January, 1823, Mr. Kirby contributed a short paper to the "Philosophical Magazine,"* on the sources from which animals may derive their nutriment. Mirbel had proposed to distinguish vegetables from animals by the different nature of their food, the former making use of inorganic, the latter of organic matter. Dr. Viretz, on the contrary, maintained that plants as well as animals are supported by organic food, as he contends it is the debris of organised matter, mixed with the soil, that furnishes plants with their appropriate pabulum,—as likewise those animals which have been supposed to live upon earth. Mr. Kirby here repeats his own observations of an animal deriving nutriment from a mineral substance in which there was no debris of organised matter. He had received from a friend specimens of asbestos which contained the larvæ of some insect, which had perforated it in various directions. When arrived at their perfect state, they proved to be a species of beetle of the genus *Dermestes*†—a tribe that usually feeds upon dead animal matter when dried. Mr. Kirby, having given his reasons for believing it to be food that they were in quest of, concludes his paper with the remark—"Insulated facts, though seemingly trifling, are often of great use to the physiologist and natural philosopher."

Although the title, "Introduction to Entomology," would lead a superficial reader to imagine that only the commoner insects would be referred to, yet those who are acquainted with the work well know that something more than the

my best guides in entomology, and whose friendship and kind encouragement among my chief supports in my advances through the science."—Zoological Journal, Vol. i. p. 540.

* Vol. lxi. 1823, Pt. I. p. 3.

† *Dermestes vulpinus*, Fab.

elements of entomology was aimed at, and that, in the course of the illustration of the anatomy, or the habits, or the geographical distribution of insects, many genera and species were referred to which had not been before specifically described. These remarks, though applicable to the first and second volumes, apply yet more strongly to the third and fourth. These, it must be observed, were a long time in preparation: indeed, their merit, like that of our native oak, depended in no small degree upon the slowness of their growth, as, from this circumstance, they derived advantage from many important observations made at a period when the science was making its most rapid strides.

Mr. Kirby, in his correspondence, and even in one of his published papers, forestalled, as it were, the concluding volumes of the "Introduction."

Well aware of the interest attached to many of these insects, he proposed to himself to communicate to the Zoological Club, descriptions of portions of them. The first paper which he furnished was afterwards published in the Linnean Transactions, and was read December 21, 1824. It is to be regretted that his many avocations prevented him from carrying out his intention: the want has, however, from time to time, in some measure been supplied by other entomologists.

In this paper the descriptions are confined to insects of the order Coleoptera.

The first genus described is the *Hexagonia* (Fam. *Lebiadæ*), the type being *H. terminata:* it is referred to (Vol. iii. 538) to illustrate the anatomy of the prothorax.

Onthophagus (Fam. *Scarabæidæ*, Mac Leay) is referred to in speaking of what are called (alluding to their geographical distribution) *dominant* groups. This genus is noticed as being found "both in the Old World and in the New, and in the temperate and in the torrid zones. Its principal seat

appears to be within the tropics; but it may almost be said to have also a northern metropolis. More than one species have been taken in New Holland. In general, tropical insects exceed those of colder climates in size; but, in the genus we are speaking of, the European species are usually larger than the Indian."—Vol. iv. 502.

Megasoma (Fam. *Dynastidæ*, Mac Leay; type, *Scarabæus Actæon*, L.)—This genus is noticed in the "Introduction" for the thick and robust horn of its head.—Vol. iii. 308.

Dynastes is employed in the "Introduction" to illustrate the anatomy of the labial palpi.—Vol. iii. 425. It is also noticed for the marvellous structure of the eye, as appears in the following passage:—"The number of lenses in an eye varies in different insects: Hooke computed those in the horse-fly to amount to nearly 7000. Leeuwenhoeck found more than 12,000 in that of a dragon-fly; and 17,325 have been counted in that of a butterfly: but, of all insects, they seem to be most numerous in the beetles of Mr. Mac Leay's genus *Dynastes*. In the eyes of these, the lenses are so small as not to be easily discoverable even under a pocket microscope, except the eye has turned white; it is not, therefore, wonderful that Fabricius should call these eyes simple."*—Vol. iii. 494.

Archon (Fam. *Dynastidæ*).—This genus is referred to in speaking of the appendages of the maxillæ.—Vol. iii. 445.

Mimela (Fam. *Rutelidæ*) is referred to as an example in which the elevation of the prosternum is between the arms.—Vol. iii. 542. It is also given as one of the insects peculiar to Asia.—Vol. iv. 508.

Genuchus (Fam. *Cetoniadæ*, Mac Leay).—It is interesting to know that insects which are confined to one country

* Philos. Entomolog., 19.

have those which represent them, either in form or function, and sometimes in both, in another country: thus the singular genus *Cremastocheilus*, of North America, is represented in Africa by this genus.—Vol. iv. 510.

Schizorhina.—The type of this genus is *Cetonia atropunctata*:* it is given as an example of an insect in which the form of the nose is bifid.—Vol. iii. 478.

This genus is also referred to as an insect of New Holland which has a representative (*Chasmodia*, Fam. *Rutelidæ*) in Brazil as to form, though, from having soft mandibles, its functions must be different. It is to be observed, however, that these insects appear to approach each other in the series of affinity.—Vol. iv. 509.

Gnathocera.—This genus is allied to *Cetonia*, the type being *Cetonia vitticollis*, Latr. It is referred to as a case in which the cheeks are porrected, on each side of the mouth, into a horizontal horn.—Vol. iii. 487.

The descriptions of these insects are drawn out in Mr. Kirby's usual careful manner. The remarks which I have given, taken from the principal places in the "Introduction to Entomology" in which they are referred to, will perhaps sufficiently account for the selection of these from among the Coleopterous insects for description.

Very shortly after, Mr. Kirby communicated a paper to the "Zoological Journal," the principal bearing of which was upon the small attention which had been paid to nomenclature: chemistry alone excepted, every other science seemed at sea upon the subject. Even the important science of anatomy, he observed, exhibited "but little of concinnity and harmony in its technical language." The reason of this defect he asserts to be found in the fact "that it had been constructed at different times by different

* Linn. Trans., Vol. xii. p. 464.

persons, who had no common plan or system before them to serve as a guide."

Mr. Kirby had himself paid great attention to this subject. He here notices his proposal, which had been improved upon by Mr. Mac Leay, in his "Horæ Entomologicæ," of distinguishing the primary sections of several of his orders by terminating the name of each in *ina*. "If this principle," he observes, "could be applied to all the divisions till you arrive at genera, it would give a vast clearness to the science; other names might terminate in *ita;* another set, derived from parts of the economy of insects, in *phila;* and a third, from their food, in *phaga,*— or in *myza*, perhaps, if they belonged to the suctorious tribe."

These remarks are afterwards shown to be applicable to the nomenclature of the primary groups, into which the Linnean genus *Gryllus* had been divided. In the course of his observations upon the changes made by Fabricius, Latreille, and Dr. Leach, Mr. Kirby speaks with approbation of that made by the last named gentleman, by restoring the name of *Locusta* to the real locust of the ancients. At the same time he proposes a modification in the name of *Conocephalus*, as applied to the *Locusta* of Geoffroy and Fabricius: this name he would restrict to those with a conical head. One most common species, with obtuse head and straight ovipositor (*Locusta viridissima*, Fabr.), with its affinities, he suggests should be called *Acrida;* whilst those whose elytra, or rather tegmina, so beautifully imitate the leaves of plants, distinguished by a re-curved ovipositor, should be called *Pterophylla.*

At the conclusion of the paper, Mr. Kirby gives a short generic and specific description of a new genus connecting

this tribe with the *Locustidæ* (*Gryllus*, Fabr.). To this he assigns the name of *Scaphura Vigorsii*.*

In a paper communicated in April 1825† to the same journal, Mr. Kirby apologises for an error which he had committed,—in haste writing *Gryllina* for *Locustina*, and recalling some observations he had made upon the Greek word *Tettix*, in his former communication. He also takes the opportunity of noticing, in terms of commendation, Dr. Barclay's "New Anatomical Nomenclature," which had inadvertently been omitted in the former paper. A description is also given of the genus *Scaphura* more in detail, as well as of the species *S. Vigorsii:* this is illustrated by a plate.

In the same number a short paper also appears, describing a pair of remarkable horned mandibles taken from a string of green beads brought from New Holland. They appear to have belonged to a *Lucanus* or a *Prionus:* the mandible was trigonal, very strong, and armed internally with five short teeth, that of the base being a molary one. A horn proceeded from the base of the mandible, forming an acute angle with it: this was nearly an inch and a half long, armed with an obtuse tooth below the middle, above which it was transversely sulcated.‡

In the "Philosophical Magazine" of the year 1825, a paper, read at the Linnean Society by Mr. W. S. Mac Leay, was noticed.§ The object of this paper was to show that all Coleoptera are typically pentamerous, and that the majority of insects classed as tetramerous have in reality not four, but five joints, as the Linnean genera *Curculio*,

* Zoological Journal, Vol. i. p. 432.
† Ibid., Vol. ii. p. 9.
‡ Zoological Journal, Vol. ii. p. 70.
§ Philosophical Magazine, Vol. lxv. p. 136.

Cerambyx, and *Chrysomela*; and farther, that all the trimerous insects of the French entomologists are at least tetramerous.

This called for a short letter from Mr. Kirby, in which he pointed out that De Geer was aware of the minute joint at the base of the claw which was referred to; and at the same time announced that, in the third volume of the "Introduction" (then printed but not published), this matter was already placed in its proper light.*

Mr. Kirby submitted his article to Mr. Mac Leay for his approval or alteration, but, before it was printed, added his remark, that that gentleman was not acquainted with De Geer's observations. He regretted that he had hastily drawn this conclusion, and was anxious to correct his statement as soon as he found he was in error on this point. This desire, added moreover to a wish to remove an impression that some persons had unaccountably taken up, that he had intended an attack upon Mr. Mac Leay, induced him again to insert an article in the "Philosophical Magazine,"† the chief merit of which is, that it gives yet more clearly than was stated in the "Introduction," Mr. Kirby's own view of the tarsus of *Coccinella*. He says:—"I must here also observe, that De Geer invariably looked upon *Coccinella* as being trimerous, as appears in almost every passage in which he has mentioned it, and in the explanation of this very plate; so that he regarded this not as a *primary*, but as a *secondary* joint, or the joint of a joint, as I am disposed to do myself; and therefore, in the "Introduction to Entomology," and upon other occasions, I speak of the *Chrysomelidæ*, &c. as *tetramerous*, and the *Coccinellidæ* as *trimerous*."‡

* Philosophical Magazine, Vol. lxv. p. 193.
† Ibid., p. 267.
‡ Ibid., p. 268.

Mr. Mac Leay himself was well satisfied that his supposed error was noticed without any unkindly feeling, merely for the benefit of science. His friends, doubtless, were also satisfied when they read this communication, in which Mr. Kirby says—"Nothing was farther from my intention than to *attack* a friend whom I have so long and so highly esteemed, both for his personal qualities, his natural talents, and the extensive range of his learning and knowledge."*

A wish to share with others the advantage which his own valuable cabinet afforded, prompted Mr. Kirby to describe, in the "Zoological Journal," in 1826, two new species of Coleopterous insects, belonging to the genera *Cremastocheilus* and *Priocera*. These insects were supposed to be natives of North America; both of them came from the cabinet of Mr. Francillon: they were named respectively *Cremastocheilus variolosus* and *Priocera pusillus*.†

Mr. Kirby also added a detailed description of another species of *Cremastocheilus*, which he had received from Dr. Harris, and which he was led to consider as the real *C. Castaneæ* of Knoch.

Mr. Kirby in the following year continued the subject of this paper: this he was prompted to, in some measure, from his having received a third and distinct species of *Cremastocheilus* from North America. To his description of this he added, in order, those of several Petalocerous beetles before undescribed.

The first is that of *Cnemida* (a new genus of the Fam. *Rutelidæ*). The external and secondary characters are pointed out as very different from those of the other insects

* Philosophical Magazine, Vol. lxv. p. 268.

† This genus has been described by Mr. Kirby in the Linnean Transactions, Vol. xii. 388—392.

of this family: three are described, viz.—*C. Francilloni, Sparshalli,* and *Curtisii,* from Brazil. The following interesting observations are made upon the last:—

"It is remarkable that in Mr. Curtis's specimen, the only one I have seen of the insect here described, the acuducted foveæ, and parts of the head, prothorax, elytra, legs, and podex, are partially covered with a white substance resembling fine flour, and not at all granular—a circumstance opening the door to a probable conjecture as to the use of their peculiar sculpture, and proving that Creative Wisdom had an important end in view, when it scored these little beetles with seemingly insignificant scratches. When masons prepare the walls of a house for the outward coat of plaister, they draw lines upon it with their trowels, by means of which this coat adheres to the other: so the acuducted parts of the insect I am describing, in this respect differing from the other *Rutelidæ,* afford a surface properly prepared for the adhesion of the above matter.

"From their agreeing together in their sculpture, it is probable that all the species of this genus of the New World collect some farinaceous substance,—most likely from the plants that they frequent,—for some purpose important to them in their peculiar economy. Were it granular, I should at once pronounce it to be pollen; and as the hive-bee knows how to reduce the farina of flowers to an impalpable powder, before it forms it into the little masses of paste which it carries in its posterior tibiæ, so may the insects in question. Whether the farina thus collected is intended for the food of the insect itself, or its larvæ, can be determined only by actual observation; but, reasoning from analogy, the latter seems the most probable. I had occasion to observe, however, with regard to another of the same family, that the molary part of its mandibles was filled with a similar substance, which makes for the former opinion."

The next insect noticed is *Cremastocheilus canaliculatus*. The place assigned to this genus by M. Latreille is very closely examined. Mr. Kirby, after showing its near relationship to the *Trichiadæ*, points out an analogy between it and some of the *Scarabæidæ* of Mac Leay. After a description of *C. canaliculatus*, Mr. Kirby says :—"This species is larger than either of those described in the 8th No. of the Journal, and is sufficiently distinguished from them by its channelled prothorax, with very prominent angles. The species which I then described as the original *C. Castaneæ* of Knoch, and which was sent me under that name from America, upon a comparison with his description and figure, which I have since had an opportunity of consulting, I find to be quite a distinct species; I propose, therefore, calling it *C. Harrisii*, from Dr. T. Harris, who sent it me. We have, therefore, already four species of this remarkable genus, which appears to belong exclusively to North America."*

The remaining descriptions are those of *Cymophorus undatus*, a species of a new genus closely allied to *Cremastocheilus*; *Campulipus*, a new genus allied to *Trichius*, the type being *Melolontha limbata*, Oliv.; *Acanthurus*, a new genus also allied to *Trichius*, the type being *Trichius hemipterus*, Fabr.; and lastly, *Trichius Bigsbii*. A division is made of this genus into seven sections.† The paper concludes with a reference to Mr. Mac Leay's observations on *T. fasciatus* resembling a wasp. "This observation," Mr. Kirby remarks, "may be extended to several other beetles, especially to many of Latreille's *Anthobii*; some species of *Amphicoma* and *Anisonyx* so closely resembling

* Zoological Journal, Vol. iii. p. 152.

† *Legitimi, Trichini, Tetropthalmi, Archimedii, Euclidii, Aleurosticti*, and *Gymnodi*.

humble-bees as to be scarcely distinguishable from them,—another proof of those remarkable analogies where there is no affinity that meet us wherever we turn to observe natural objects. As the hairy *Hymenoptera* are useful in fertilizing flowers, by transporting upon their hirsuties, far and wide, the farina fecundans, so these beetles probably answer the same useful purpose, as has been well remarked by the learned author just named."* [Mac Leay.]

In April 1828, Mr. Kirby again contributed to the pages of the "Zoological Journal," by describing some Coleopterous insects in the cabinet of Mr. Hope.

This paper is entirely confined to technical descriptions of the insects referred to.

The first, *Scarabæus femoralis*, is a most gigantic and formidable-looking beetle: it is a native of the Soudan, forming a new type in the genus *Scarabæus*. The other insects are—*Drepanocerus Kirbii*, from the Cape of Good Hope, *Onitis ambigua*, *Chrysina Peruviana*, a genus nearly allied to *Pelidnota*, Mac Leay, *Emcephalus gibbosus*, and *Adelium Hopii*. Of *Chrysina Peruviana* Mr. Kirby remarks:—"This beautiful species has one peculiarity which seems to distinguish it from all its cognate tribes: its green colour,—at least on its upper surface,—is merely superficial, and may be renewed by friction, when only black appears."†

With respect to *Drepanocerus*, Mr. Kirby laboured under the disadvantage of not being able to dissect a specimen, so that he was doubtful whether it ought to be more than a subgenus: it was most nearly related to *Oniticellus*, notwithstanding the prima facie difference which it presented. A similar remark applies to *Chrysina*: the internal edge of the mandibles and maxillæ could not be examined.

* Zoological Journal, Vol. iii. p. 157.

† Ibid., p. 523.

Mr. Kirby having interested himself much about the insects which have committed, at various times, such ravages upon wheat in this country, it was but natural that he should be desirous of ascertaining the history of those that are destructive in other countries; more especially was he curious for a description of that once terrible scourge of America, the Hessian Fly, the very dread of which, even at a distance, had produced such a panic in England as to cause the Privy Council to give it their serious consideration.*

Mr. Kirby was aware that Mr. Say, the American entomologist, had paid attention to the subject; but, though he tried through various channels to obtain information concerning this insect, it was not until after Mr. Say's notice of it had been some years published, that he accomplished his wish. He then found that it was of the same genus as his own *Tipula Tritici* (which, under the modern system, belongs to the genus *Cecidomyia*). Mr. Kirby communicated to "Loudon's Magazine of Natural History" Mr. Say's description, as it did not appear at that time to be generally known to entomologists.†

On two other occasions Mr. Kirby made communications to the same Magazine, both in the year 1829. The first gives an outline of two most remarkable insects, and that not for their hidden structure, but for their strange appearance,—so grotesque, in fact, that they could not fail to interest and amuse the most common-place observer.

The insects were *Centrotus Bennetii* and *C. Hardwickii;* the one brought by Mr. Edward Bennet from Columbia, the other by General Hardwicke from the East.

* Introduction to Entomology, Vol. i. p. 50.

† Loudon's Magazine of Natural History, Vol. i. p. 227.

There were added to them four other figures of insects of the same genus, copied from "Stoll's Cigales," a work in few hands, which are all calculated to excite astonishment in the mind of the beholder, who would at first be disposed to doubt the existence of creatures armed in so extraordinary a manner. The only conjecture one can form with regard to the use of the apparatus that distinguishes them, is that it is designed to deceive their enemies, the birds, who may thus often be led to mistake them for part of the spray of the tree or shrub on which they feed.*

The other communication referred to was drawn forth by a description given by another correspondent of a nidus upon a rush.† Mr. Kirby here calls attention to the observations of De Geer upon similar ones formed by spiders. He also noticed some nests of the same kind in his own possession suspended to stalks of grass. That upon the rush, he suggested, probably contained the eggs of some spider frequenting the water.‡

In a paper communicated to the "Zoological Journal," and published in the fifth volume,§ Mr. Kirby laid down, as far as circumstances allowed him, the characters of a new genus of Coleoptera. The insect from which these descriptions were taken presented characters of several distinct tribes, so that it remained uncertain to what group it belonged: the specimen being gummed down on card, it was impossible to examine the under side. The species is described under the name *Clinidium Guildingii*. Mr. Guilding had examined it under a powerful magnifier, and failed to find any lens or reticulation in the space supposed

* Loudon's Magazine of Natural History, Vol. ii. p. 20.
† Ibid., p. 104.
‡ Ibid., p. 405.
§ Zoological Journal, Vol. v. p. 6.

to be the eye, which led Mr. Kirby to remark that in this respect no other Coleopterous insect agrees with it; "so that it is the only known individual that strictly verifies the proverb, 'As blind as a beetle.'"

The points which are spoken of with some degree of doubt respecting this insect are subsequently cleared up by Mr. Westwood, in an article published in the same volume.*

In this elaborate and interesting paper Mr. Westwood satisfactorily shows the alliance of the genus *Clinidium* to that of *Rhysodes*. It was a curious coincidence that, on the very day that Mr. Kirby's paper was published, Mr. Westwood received from Germany *Rhysodes exaratus*, the intimate connection of which genus with Mr. Kirby's *Clinidium* struck him immediately, and a careful examination placed the question beyond a doubt.

As to the eyes, Mr. Westwood remarks upon *Rhysodes exaratus* — "The eyes are oval, lateral, not very large, placed behind the insertion of the antennæ, and distinctly reticulated. On a casual view of the insect, it is not improbable that the two large raised lateral and posterior smooth parts of the head might easily be mistaken for eyes; and I am rather inclined to think that Mr. Guilding has considered the parts similarly situated in *Clinidium* as the eyes, more especially as Mr. Kirby's observations leave the matter in doubt."†

* Zoological Journal, Vol. v. p. 213.

† Ibid., p. 216.

CHAPTER XX.

Correspondence.—Visit to the New Forest.—Luminous insects.—Electric Spiders.—Meteorology.

THE following letters and extracts are taken from the correspondence which was kept up by Mr. Kirby with his numerous friends, between the years 1820—1829:—

Mr. Kirby to Mr. Curtis.

"Barham, March 16th, 1820.

"Dear Curtis,—I am very sorry that you should have had so much trouble in getting my plates coloured, particularly as it originated in a mistake of my own.....

"When they are finished I shall be obliged to you to let Taylor have them; I shall send him a line on the subject, requesting him to make up the several copies with a proper cover, and when finished to give you a copy.....

"I shall be very glad to have my name added to the list of subscribers for the remainder of Haworth's Lepidoptera. I know another gentleman that would gladly take a copy if he could procure the other parts, which he has not been able to do. If you will take the trouble to enquire whether they can be had, and at what price, I will inform him, and let you know his farther wishes.

"I can trust to your accuracy with respect to the figures of the two little insects I sent, and therefore will give you no other trouble on the subject than to send down the insects when you have done with them..... I shall be very glad to have one of Mr. Swainson's Catalogues when out. When is the sale likely to take place? I shall particularly wish to be at it, as he is rich, I have reason to think, in one of my favourite tribes—the Homopterous Hemiptera, and there are some of the more splendid Brazil Curculionidæ that I wish much to procure. I wish to have some conversation with you on the sub-

ject of the remaining plates to 'Introduction to Entomology'..... I am getting on with all the speed I can with the anatomical part, which runs to great length, but I must condense it before it goes to press. Is there any other entomological news in town?.....

"Dear Curtis,

"Yours very truly,

"WM. KIRBY.

"P.S.—My portrait is engraved, and will, with Mr. Spence's, appear in the next volume. Should you pass Longmans' they probably can show you mine, which is extremely well done, and so like that several little boys knew it directly—one of Mr. Rodwell's, four years old, cried out upon being shown it, 'That is uncle Kirby!'

Mr. Kirby to Dr. Sutton.

"Whitchurch Canonicorum, June 28th, 1821.

"My Dear Sutton,—. . . . . We left Brentford a little after 8 A.M., taking our places in a Salisbury coach. The road is very uninteresting, and a great part of the way dreary and desolate; one of the passengers was Mr. Rashleigh, a Cornish gentleman, F.L.S. and formerly M.P.; he was kind enough to give us a recommendation to Mr. Duke, of Lake, his brother-in-law, a great antiquary, mineralogist, &c., and also desired us, in his name, to call upon Mr. Shorto, a cutler at Salisbury, who has a very fine collection of fossils. After we had taken our tea we walked out. I was delighted with the cathedral,—the style of architecture is so extremely light and elegant, though unornamented and simple, and it stands to great advantage in the midst as it were of a green meadow, there being no graves or gravestones in the churchyard.

"The next morning we attended the early service at 7 o'clock. As you will most probably visit Salisbury when at Mr. Shephard's, it will not be of use to describe the interior: do not omit to observe the tomb of the *Boy Bishop*,* covered with iron hoops. I could not make out the history of it, nor, indeed, of any of the uninscribed tombs. After breakfast we took a post-chaise, and passing Old Sarum (which

* A basso relievo, which represents a small figure in pontificals, and is said to be a tomb of one of the Boy-Bishops, or Chorister Bishops, formerly elected annually on St. Nicholas Day, in this Church.—Winkle's Cathedrals, Vol. i. p. 12. Upon the subject of Episcopus Puerorum, see Hone's Every Day Book, Vol. i.

is merely a Roman Castrum, on a very elevated spot, with not a single house now in it, so that the election is obliged to be held under a tree), we proceeded through a pleasant, well-wooded, and watered valley, with several villages embosomed in it, to Mr. Duke's, at Lake: unfortunately he had left home to attend a justice sitting.

"Mrs. Duke was, however, very kind, and desired us to call as we came back. We then proceeded two and half miles farther to Stonehenge, and were much struck and interested by that stupendous work of a barbarous and superstitious people. I need not describe it, as all I can tell is in Stukely. I measured one of the stones; it was 19 feet long by 7 feet breadth, and 2 feet 9 inches thickness.

"We returned by Mr. Duke's, who had not been able to meet us, but sent the key of his cabinets, which contained many fine mineralogical specimens, and some extremely curious morceaux for the antiquarian, particularly an immense necklace of amber beads, which had been burnt with some Roman lady . . . . I should have mentioned that we saw part of Mr. Shorto's collection of fossils, which consisted chiefly of zoophytes, as far as we saw it, for we had not time to go through the whole, and contained many extremely curious specimens. In his shop were several very large and fine ammonites; one more perfect than any I ever saw . . . .

"We rose early the next morning, breakfasted, and took our seats in the Exeter mail. Our course lay over bleak and naked downs, with a village in those vallies in which ran a stream or rivulet. We passed through Blandford . . . . Dorchester. The country soon began to assume a most romantic and picturesque appearance, different from anything I had ever seen, being laid out in vast basin-like villages, inclosed between high hills; it was not now open, but divided into fields by quick-hedges, trees, &c.; it seemed but thinly inhabited. We next came to Bridport, a poor town, and four miles from thence were set down at Mercomb's Lake (don't fancy there is a vast expanse of water, for here they call a rivulet a lake): we walked down the hill, and at a distance of a mile came to Goforth's house; he has made an excellent parsonage, and has surrounded it with a belt of firs and laurels, which gives his garden an aspect quite in contrast with the country, in which at every step you see, for miles and miles, the vast valley before you, and cannot find a secluded spot for the eye to repose in . . . .

. . . . "In this coast very curious fossil animals are often found: a woman who employs herself in collecting them, found one which was esteemed so curious that it was sold for £105: it was at first sup-

posed to be related to the *Ornithorhynchus*, but by the accounts here it seems something of the Lizard and Crocodile kind.

"To-morrow morning we are off for Exeter; thence to Exmouth, and stay till Tuesday morning. Thence we proceed into Hampshire; I propose hunting two days in the New Forest, where I am to be met by a friend.

"I am, Dear Sutton,
"Yours most affectionately,
"WM. KIRBY."

Mr. Kirby to Mr. Dale.

"Barham, August 15th, 1821.

"My Dear Sir,—I have been looking with no small degree of impatience for your promised account of your proceedings in the Forest, after we parted at Newport, and I cannot refrain, as it has not yet arrived, reminding you of it. We had a very pleasant journey to Ryde, the situation of which was greatly admired, and a slow but not disagreeable passage from thence to Portsmouth . . . .

"We had a pleasant journey the next day to Brentford, and went to town on the Friday. On the following Monday I had the gratification to see the collection of insects made in Java by Dr. Horsfield, which are in the Museum at the India House. I bought three good insects (foreign Coleoptera), in Leadenhall Street, but met with nothing English . . . . I have been so very busy since my return to Barham, that I have scarcely had time till yesterday to look over the Insects I took. In the meadow by the river near Farley-heath, upon the *Comarum palustre*, I took the *Curculio Comari*, of Gyllenhal, (*Pachyrhinus*, Germar): if you look on that plant when you go that way, you will probably find more. I only took a single specimen.

"The *Cryptocephalus* that I took in the New Forest differs from *C. sericeus* only in its golden lustre, and in having the scutellum free from puncta in the middle.

"I took what appears to me either a new species, or a large variety of *Lamia pilosa*, upon a rail, as we were going from the Forest to Lyndhurst, after our day's hunt.

"I long to know whether you took more of the fine *Ctenophora* you captured on the oak, and whether *Stauropus Fagi* gratified your wishes? Pray be particular in giving me an account of all your prizes and adventures, and of what you have been doing since we parted. I often look back to the pleasant excursion we took,—the

season, to be sure, was not favourable to the entomologist, but the scenery both of the New Forest and of the Isle of Wight was highly gratifying to the tourist. I have taken nothing myself since my return to Barham, having been fully engaged with other business. I have, I believe, now told you all I had to communicate. Pray let me hear from you soon. "I am, &c."

The fine *Ctenophora* referred to was *C. ornata* (Curtis's British Entomology, pl. 5). Mr. Dale informs me it is unique as British, even to the present day. The *Curculio* taken upon the *Comarum palustre* (Curtis's British Entomology, pl. 670), had never been taken as British before. Mr. Dale lost no time in following his friend's advice, and found the insect in the spot pointed out.

Mr. Dale to Mr. Kirby.

"Glanville's Wootton, August 30th, 1821.

"My Dear Sir,—I suppose my last letter crossed yours on the road. I delayed sending a letter before I had something worth writing about. I now send you a little entomological news.

"I have not been fortunate enough to find any more *Ctenophora* like the one I took near Lyndhurst. I could not find anything of *Conocephalus Bingleii*, but plenty of *viridissima*; but from information from farmers and labourers, they are not uncommon in the neighbourhood of Hurne and Christchurch . . . .

"I just went to Brockenhurst one day last week, into the forest, and was truly surprised to see between forty and fifty specimens (of two or three sorts) of crimson underwings, without taking one, but I took ♂ *Liparis monacha*. On Parley-heath I took a bad *Noctua Myrtilli* and *Phytometra Dipsacea* . . . .

"My sister writes from Venice, that they walked into the country one day, and caught an insect which they intended for me, but as they were walking through the streets of Venice it made such a noise, and they were so stared at, that they were obliged to let it escape. I suppose it must be some species of *Cicada*. I have a large sheet which I intend taking to the New Forest next year, to beat for the caterpillars of the crimson underwings, some differing very much. I have just received from Mr. Burney ten *Phalæna ulmata*, and I have put one into your box, which I shall send to you when I next return

to Hampshire. There is no such thing scarcely as a good insect to be found here now. I quite depend upon Hants.

"I am, yours very truly,

"J. C. DALE."

Extract from the same to the same.

December 3rd, 1821.—"I have to inform you from information which cannot be doubted, that *Hipparchia Mnemon*, which Dr. Leach would not admit as British, was taken by Stothard, the Royal Academician, on the hills commanding Winander Mere, near Ambleside, in Westmoreland; not in either Scotland or Cumberland, as Haworth and Stephens assert. *Vanessa Antiopa* has been taken again this season, near Worcester; so it has been taken there three successive years. Mr. Haworth told me that the true *Hipparchia Hero* was taken by, and is now in the cabinet of Mr. Plasted, who took it in Ashdown Forest, Sussex.

"Mr. Stephens' new *Cicindela affinis* or *similis*, is the *sylvicola*, a specimen of which my sister brought me from Italy, where they were in great plenty."

Mr. Brightwell to Mr. Kirby.

"Norwich, December 30th, 1821.

"My Dear Sir,— . . . . I have added but little to my collection this summer. At Hunstanton, in this county, on the sea coast, I took a single specimen of *Bembidion Andræna*, Gyll., a beautiful and rare insect . . . .

"Gyllenhal is an excellent fellow, and in his three volumes, which I now possess, the British entomologist has a treasure, and a model of correct and exact description. I hope that you are bringing your much desired volumes to a close, and that the ensuing spring will see that useful and interesting work completed.

"In reading Southey's History of Brazil lately, I observe he says that in Brazil they destroy ants by strewing powdered chalk in their paths; the formic acid and the alkali create a destructive fermentation. Had you noticed this?. . . . . .

"I am, Dear Sir,

"Yours very truly,

"THOMAS BRIGHTWELL."

The allusion in the following extract from a letter of Mr. W. S. Mac Leay's is to Mr. Kirby's Paper on Strepsiptera, before referred to :—

"November 22nd, 1821.—"I must dissent from the anatomy of the thorax, given in page 105. This I am at present engaged upon, in consequence of a communication from one of the most rising entomologists in France, M. Audoin. Before I publish anything upon the subject, I shall let you know the results of my investigation. If they should differ from your conclusion it is no matter, for since the time your paper was written many discoveries have been made in comparative anatomy, and you certainly have the honour of being the first that ever took up the subject of the thorax, of which every former entomologist contented himself with recording the external form; natural science, however, is only improved by successive *tatonnements*, and whenever a happy idea is started, the author of it ought not to be surprised if he finds it improved upon."

Among those who have devoted their time and attention to tracing the footsteps of Nature, and to the discovery of a natural system, the writer of this letter has attained a very high position, and has substantiated his claim to be considered as one of those original thinkers, as Mr. Kirby himself observed, "rari nantes in gurgite vasto," that do not appear every day. Mr. Spence alone excepted, there was not any one who corresponded with Mr. Kirby on matters of science to whom he so copiously and freely gave expression to his thoughts. To find room even for a portion of these letters, so as to convey an adequate idea of the whole correspondence, would be impracticable, as many of them may be regarded as separate treatises.

The theory of the *Circular System*, which originated with Mr. Mac Leay, though almost at the same time produced by De Candolle and others, was the principal subject which was discussed with Mr. Kirby. The latter,

with his usual caution and circumspection, feared lest he should adopt too hastily his friend's theory; at the same time he was equally unwilling to check his farther investigation upon a matter so dear to him as the establishment, by a legitimate process, of a system which should, by standing the test of every enquiry, prove worthy the name of a natural system.

Mr. Mac Leay derived great benefit from the acute but friendly criticism of one who had now acquired the title of the Father of Entomological Science.

At the outset of their correspondence, Mr. Kirby was struck with the sublimity of the subject into which his friend would lead him: having entered upon the matter of the geographical distribution of insects, he wished to know how far his views were in accordance with the reading and observation of Mr. Mac Leay: the letter which conveyed the answer to this enquiry contained these passages:—

"The great end of the study of the Geography of Insects I conceive to be not only the acquiring of the knowledge of the habitat of a species, from its form, but also the obtaining the certainty of a group being natural by a peculiarity of form being combined with a peculiarity of habitat. In this manner I look upon the geography of insects as an additional and also a powerful instrument in the hands of the person who may be engaged in the search of the Natural System".....

Speaking of the dispersion of insects,—

"However, to say the truth, it is a subject that is not to be decided by an 'I think,' but requires an accurate estimate of the anatomical value of the two groups, before any conclusion on the subject can be esteemed valid."

This letter was carefully endorsed by Mr. Kirby, with two passages of Scripture, which were introduced into his

answer; significant of the humility with which he approached such subjects:—

"It is the glory of God to conceal a thing."—Prov. xxv. 2.

"It is not good to eat much honey: so for men to search their own glory is not glory."—Prov. xxv. 27.

To what extent Mr. Kirby agreed with Mr. Mac Leay upon a subject which, as to the ground upon which it was founded, was only being progressively unfolded to him, we need not now enquire. The system of Mr. Mac Leay is clearly and fairly stated in the "Introduction to Entomology."*

How great a value Mr. Mac Leay attached to Mr. Kirby's letters may be gathered from the following extract, November 27th, 1821:—

"I must again assure you that I cannot sufficiently express my thanks for your late very valuable letters. They have, indeed, been inestimable to me, not only as showing what you consider the weaker parts of my work, but as supplying me with a fund of information relative to our favourite science. With respect to the weaker parts of my work, I believe there is a great distinction to be made between a weak theory, and a theory having weak points; and while I confess that I have unbounded confidence in the strength of my main theory, I doubt not but that it must have weak points from my inability to do justice to it. It is disheartening amid darkness to get a glimpse of light only sufficient to prove how glorious must be the broad day. Your letters, however, always instruct me, and if in my answers I sometimes express disappointment at being misunderstood, you will, I am sure, pardon the feeling, in the assurance that I know no entomologist more ardent in the search of truth, or more able to elicit it than yourself."

It is impossible not to observe that Mr. Kirby himself derived much advantage from the study and thought which he had to bestow upon the propositions submitted by Mr. Mac Leay, as well as from the clear and lucid manner in

* Vol. iv. p. 477.

which that gentleman produced facts and stated arguments which bore upon his side of the question. I would not, however, have it supposed, that I would here imply that Mr. Mac Leay's views were ultimately adopted, unless, indeed, with very great limitations;—but it will be sufficient to notice this when a later work of Mr. Kirby's comes under consideration.

Mr. Kirby to Mr. Denny.

"Barham, Sept. 13th, 1821.

"Dear Denny,—I should have acknowledged earlier the arrival of the three first plates, but since my return from my tour I have been full of business, so that I have had no time to examine them. They appear to me, from a mere survey, very neatly executed, and I make no doubt upon a closer inspection they will prove upon the whole satisfactory.

"I was not very successful in the entomological way in my tour, as the weather was unusually cold for the time of year. I was, however, fortunate enough to take *Stauropus Fagi* in the New Forest, and also two or three new Coleoptera, &c.

"Mr. Stephens is staying here: he was vastly pleased with the *Byrrhus* you took, which was quite new to him. He has taken three or four insects he wanted, since he has been here.....

"I am,

"Yours very truly,

"Wm. Kirby."

Mr. Kirby to Mr. Brightwell.

"Barham, January 7th, 1822.

"My Dear Sir,—I should sooner have acknowledged the receipt of your very acceptable present..... The Brawn is indeed very fine, and not having seen any many years, it is like renewing my connection with an old College friend after a long absence.....

....."Mr. W. Mac Leay lately mentioned to me a singular insect which you sent him, which was found by a cork-cutter in Cork, but he did not specify to what tribe it belonged. What was it? . . Thanks for the insects in the box. I think I have taken the same at Alderton; it seems to be only a variety of what I have as *echinatus*. I am deeply engaged at present in our work, and am now deciphering and preparing Mr. Spence's MS. for the press. In the course of

two or three months, I hope to get enough ready to begin printing, but at present cannot speak with any confidence on the subject. I had not met with the anecdote you mention from Southey's Brazil. It will be of use under *Secretions*, when the formic acid is noticed.

"Has Denny done much in the way of captures? I was unfortunate in my tour in the summer. At Blackgang-Chine I could not find *Cicindela Germanica*. I took *Stauropus Fagi* in the New Forest, and this was the only valuable insect I met with except *Curculio Comari*, Gyll. With every good wish of the season,

"I am, Dear Sir,

"Yours very truly,

"Wm. Kirby.

"P.S.—Have you compared, yourself, *Agrion Brightwelli* with Mr. Swainson's species? If not, I think some doubt will rest upon the subject of its being synonymous with a Brazil species."

Mr. Kirby to Mr. Denny.

"Barham, May 17th, 1822.

"Dear Denny,—I have long felt a wish, if it could by any means be accomplished, to introduce you to constant and remunerating employment. Having this in my mind, a thought struck me when at Norwich that a periodical work containing figures and descriptions of such insects as are noticed in the "Introduction to Entomology," if well executed, would probably meet with encouragement, keep you constantly at work, and be not unprofitable to myself and the bookseller. I would not mention this to you at that time, that I might not raise your hopes only to disappoint them, but delayed doing it till after I had thought it over at home, and consulted Messrs. Longman upon the subject. The other day I received their answer to a letter I wrote. They are apprehensive that the expenses would be too great for the work to answer, but at the same time wish to know what would be the charge per plate for drawing and engraving five or six insects on each when small, and fewer when large, including charge for copper..... Likewise, what would be your charge for colouring one hundred impressions of each plate. You will be so good, therefore, as to consult Mr. Sparshall and your friends upon the subject: of course, if the work becomes a favourite with the public, and yields more profit than at present we expect, if your execution of your department is satisfactory, we shall be willing to make a proportionate advance in our payment to you.

"Suppose there were five plates given in every number, could you

have them ready every month, and get (say) five hundred copies coloured?.....

"I am, Dear Denny,
"Yours very faithfully,
"WM. KIRBY."

The result of this negociation with Messrs. Longman is given in a letter to Mr. Sparshall. The risk attending such publications was much greater than in the present day. Mr. Kirby never again returned to the subject, the want of such a work being supplied shortly after.

Mr. Kirby to Mr. Dale.

"Barham, May 29th, 1822.

"Dear Sir,—I owe you many apologies for not having sooner acknowledged and thanked you for the insects you were so obliging as to send me. I was in town in March, when I carried them home with me: several things amongst them were very valuable to me....

"The other day, a gentleman brought me the pupa of *Papilio Machaon*, which was excluded as it were in my hands, and produced me the finest specimen I ever saw..... I took a *Bombyx* the other day new to me, which seemed to answer tolerably well to the description of *B. roboreus*, Haworth, which I never found before. I have taken nothing else worth mentioning to you.

"I am going the last week in June to Cambridge, when I shall make a point of seeing Henslow. Do you purpose being at the commencement? If you would run over here for a few days in the meantime, I should be very glad to hunt the woods with you for Lepidoptera, though I fear your collection is so complete that not much new in that way is to be expected. I am at this time collecting all the Coleopterous larvæ, and, indeed, all but those of Lepidoptera, that I can lay my hands upon. Should you meet with anything of that kind, I shall be much obliged to you to set it by for me.

"I have no farther entomological news to tell you.

"I am, &c."

Mr. Kirby to Mr. Sparshall.

"Barham, June 13th, 1822.

"Dear Sir,—On Denny's account I am concerned to inform you that Messrs. Longman and Co. have declined having any share in my

proposed work of figures illustrative of the Introduction to Entomology. As they are the best judges of the probable success of such a speculation, I, of course, shall drop all farther thoughts of it,—at least for the present . . . .

. . . "I took lately, I think, the same *Bombyx* you took last year,—a small specimen . . . I have made no acquisition in Entomology this year, having no time for exploring. I hope you have met with better luck, as I know you are indefatigable . . .

"I am, Dear Sir,

"Yours very truly,

"WM. KIRBY."

Mr. Dale to Mr. Kirby.

"Puddletown, near Dorchester, July 20th, 1822.

"My Dear Sir,— . . . I came here yesterday for the sake of entomologizing in Elsington Wood, near this place, which I should think is a famous insect wood, as there is plenty of birch, heath, and broom, rare things in this country; but as it rains to-day I thought I would let you know what I had been about. I received your kind letter in town, and was sorry not to be able to run down to Barham. I had given to me in town *Lucanus Camelus* from Sierra Leone, a present from a king of the interior to my friend Mr. G. Meggs, who placed no value upon it, as his children were playing with it; also *Pontia Phœbus*, taken on the Alps by a lady.

"My friend —— has obtained a living near Hastings, so I am in hopes of getting the *Drypta emarginata* there, and other varieties from that quarter. I took here last evening *Geometra vauaria*,—I have only taken one before! . . . . . I took my famous *Ctenophora* to town with me, and showed it to Mr. Stephens, who says it is *C. ornata*: I believe there is only one specimen known, and that in Germany . . . . Mr. Stephens is not the only person who has taken *Pontia Daplidice*, as Mr. Miller took one between Bath and Bristol, and Mr. Millard took one at Tewkesbury, where it has been found in great plenty . . . I hope to hear soon what success you have had.

"Believe me,

"Yours very truly,

"J. C. DALE."

Mr. Murray to Mr. Kirby.

"Ashborne, Derbyshire, Jan. 7th, 1823.

"Sir,— . . . . The light aluminous matter of the *Lampyris nocti-*

luca, or Glow-worm, engaged my attention last year. The luminous matter is of a spherical form, distinct from the interstitial matter, of a brilliant yellow colour, enclosed in a diaphanous capsule; it becomes evanescent when the capsule is rent. The maximum of light is at about 100° F., and the luminous spherulæ remain under this character from 10″ to several minutes in sulphuric, nitric, and muriatic acid, according to the degree of concentration, also in alcohol. It also continues luminous in cyanogene, hydrogene, carbonic acid, percarburetted hydrogene, nitrous gas, &c.; nor is it in any degree more luminous in oxygene or nitrous oxyde, &c. If the insect, when in the act of emitting light, be introduced into hydrogene, it lives, and is equally brilliant as in oxygene. In carbonic acid it dies, but its luminosity continues.

"If the luminous matter be removed without lacerating the capsule, and immersed in olive oil, it will continue to impart light for several nights successively. If the temperature be low, the light ceases, but if a watch glass containing the luminous matter in oil of olives be placed in the hand, this animal temperature of 98° will cause it to re-emit light analogous to the phenomena of the solar phosphori . . .

"I have paid great attention to the ascent of the small, peculiar glossy, black, or dark-brown spider (with ferruginous legs), into the atmosphere, and have made some hundreds of experiments on it. The thread and spider are imbued with negative electricity, and the superior regions of the air being positively electrified, will well enough account for the phenomenon. I am satisfied it is a peculiar variety; and am inclined to think *Aranea æronautica* the most expressive title: while other spiders may be imprisoned for six months, one year, or even three years, this insect will die if confined even thirty hours. To inhabit the aerial regions seems essential to its very existence.

"A few days ago, I was greatly amused with a large Humble Bee and wasp (*Vespa vulgaris*): the Humble Bee actually drowned 'vi et armis,' the wasp,—no doubt, for some delinquency. I saw the bee press upon, and hold it under the surface of the water till it was fairly drowned, and then fly off in triumph; the struggle you may be sure was severe. Perhaps the wasp had insinuated itself, an unbidden guest, into the nest of the bee, and the victor adopted this extraordinary mode of dispatching his enemy.

"With much respect, I am, Sir,

"Your most obedient,

"J. Murray."

Mr. Chambers to Mr. Kirby.

"June 15th, 1823.

"Dear Sir,—When I read the interesting account of luminous insects, in the second volume of 'The Introduction to Entomology,' I was greatly pleased to find advocated the opinion advanced by Ray and Willoughby, that the majority of those meteors called Jack-o'-lanterns, or Wills-of-the Wisp, are luminous insects.

"In corroboration of this hypothesis, my father, who was born and lived many years in the neighbourhood of Lincoln, where these supposed ignes fatui are very common, told me, that when a lad, passing through Bulthorn Wood late in the evening, he observed behind him an ignis fatuus, which followed him through the wood, and when he came to the gate at the end, it rose to clear the upper bar. At another time he observed in the same neighbourhood two ignes fatui flying about each other, apparently at play, which they did for a considerable time, and at last settled on a plant.

"My worthy friend, the late Mr. James Dickson, the celebrated cryptogamist, to whom I related the above account, told me he was convinced that what were usually considered ignes fatui were luminous insects. He informed me that he had seen one settle on a thistle, and fly off again: and his friend, the late Mr. W. Curtis, was decidedly of the same opinion . . .

"Yours truly,

"R. CHAMBERS."

The above letter contained a long statement made to Mr. Chambers by J. Stothard, Esq., R.A., who, in a journey in the year 1821, in the early part of June, had observed before sunrise an irregular light bounding to the height of two or three feet over some heathy shrubs which covered the marshy ground. Among these it sunk, and re-appeared with a motion between leaping and flying. Mr. Stothard was of opinion that it was the mole-cricket. The structure of its wings warranted this conclusion, for it could not fly high, nor long together. The meteor and the *Gryllotalpa* having the same habitat, is another coincidence.*

* See the very interesting Chapter in the "Introduction," Vol. ii. p. 404.

In connection with this subject is an extract from a letter of Dr. Sutton's, addressed to Mr. Kirby about this time :—

"Ever since 1780, I have held an opinion that the ignis fatuus is caused by the flight of the mole-cricket, and I have lately had the fact strongly confirmed. I met with an old friend, late a Fellow of St. John's [Cambridge], accidentally the other day, who lives not far from Ickleton, in Cambridgeshire; he told me that his neighbour's steward has actually knocked one (or more) down with his hat, which he afterwards preserved: that he put one under a glass once, but when he went to look at it the next morning it had escaped; and, moreover, that the boors of his village were afraid that it had escaped into the neighbouring barn, and would set fire to the straw with its lantern! I wish you would, before you come hither, refer to Dr. Kidd, of Oxford, who has given a complete anatomy of that insect, in, I believe, an early number of the Zoological Journal..... He mentions a particular in its structure which he was unable to account for —might not this be the membrane by which it was enabled to emit light?"

Mr. Kirby to Mr. Dale.

"Barham, September 20th, 1823.

"My Dear Sir,—So long a time has elapsed since I received your last kind letter, that I fear you will think me determined to drop all correspondence with you; but in this you will be greatly mistaken, for I have not forgotten, nor shall I ever forget, your kindness and liberality to me, nor shall I forget my promise to send you *Evæsthetus*, &c.; but the truth is, for many months I have been engaged in printing the remaining volume of the 'Introduction to Entomology,' and it requires every leisure moment I have to keep properly ahead of the printer, which causes me to neglect my friends more than I wish. ..... I have myself done very little in entomology this summer: having been so deeply engaged writing about insects, I have had no time to hunt them. I took the other day a male specimen of *Mutilla europea*, which is a scarce insect. Some pretty good foreign insects I got at Harwich, where I have been staying, and a good many from the neighbourhood of Rennes, in Brittany..... Mr. Sparshall, I understand, has been hunting this year in the New Forest, but I do not find that he has got the *Cicada*, or the *Stauropus Fagi*.

"I wish you could spare time to come over to Barham for a few days; then I could put something into your box to shorten your list

of desiderata. You would not mind my driving the quill. I wonder whether you have been informed that a Zoological Club has been instituted in town—it is to consist only of Fellows and Members of the Linnean Society. Will you allow me to propose you as a member? Excuse a short letter from,

"Dear Sir,

"Your obliged and faithful,

"Wm. Kirby."

Mr. Dale from time to time supplied Mr. Kirby with news, not only of his own success in capturing insects, but also with much of the entomological news of the day, which was particularly valuable to him at this period, debarred as he was himself, by his application to study, from indulging in entomological excursions. These letters, though interesting to entomologists as affording a clue to the localities in which insects may be looked for, and giving, if we may use the term, the chronology of some of the most important genera and species of British insects, would be tedious to the general reader.

Mr. Murray to Mr. Kirby.

"Macclesfield, October 27th, 1823.

"Rev. and Dear Sir,—From some delay in the Post-office, your obliging and friendly return to my letter to you did not find me so soon as it ought to have done; and ever since, my chemical researches have closely occupied my attention. Before I had the pleasure of receiving your letter, I transmitted through Mr. Mac Leay to the Linnean Society, a communication on the light and luminous matter of the glow-worm. I do not keep any copy of my papers, but you are heartily welcome to the notes of the experiments registered by me, and from which the paper was drawn up.

"A Memoir on the Electric or Aeronautic Spider was sent by me to the Wernerian Society. I have therein adverted to Strack's Spider.....

"You have lately described an insect which draws its nutriment from the mineral kingdom, and if I mistake not, you advert to the spider which is described in 'The Annals of Philosophy' to have

devoured sulphate of zinc. I remember to have frequently noticed my bees eagerly sucking up the green paint (acetate of copper) from my auricula stage.

"Are you aware that the Common Wasp (*Vespa vulgaris*) possesses occasionally a double sting? This, Mr. Spencer, of Derby, a correct observer, assured me he noticed in one; there were two stings parallel to each other, and one-sixteenth of an inch apart.

"The *Aranea aeronautica* appears in very early spring, and during my entire experiments this summer I do not remember that I ever once succeeded in determining its flight. It was, on the contrary, bound to the ground as if the attractive influence of the earth chained its power. In spring and autumn the spider rises nimbly on its electric car.

"If suffered to fall from a point in the perpendicular plane it will be soon seen to swing like a pendulum, rising sometimes horizontally: it is now engaged in shooting out the threads which are to determine its flight: it then slips its cable and glances off, sometimes rising quite vertically, and at other times moving horizontally.

"That the threads are electric seems evident from their being attracted by the proximity of conductors, and that the electric influence is negative is also apparent from the repulsion which obtains on excited sealing-wax being brought near.

"That the number in the atmosphere is occasionally very great I am persuaded of. I caught no less than thirteen, on a coach last autumn, in a distance of seven miles.....

"I am, with the greatest respect,

"Reverend and Dear Sir,

"Your obliged and obedient,

"J. MURRAY."

Mr. Kirby, as we have already noticed, was an accurate observer of the weather: and as anything connected with Meteorology was known to be of interest to him, on occasion of a remarkable stone being picked up during a thunderstorm, it was brought to him for inspection; when, having considerable doubt of its being a meteorite, he carried it to Mr. Brayley, who pronounced it to be a nodule of common flint, notwithstanding the strong odour of sulphur which the stone retained. The matter led to some articles being

inserted in the Quarterly Journal of Science, being the substance of letters addressed to Mr. Kirby: in one of these Mr. Brayley remarked:—

"It may be worth while observing, that having examined all the relations of the falls of meteorolites I have been able to procure, in the preparation of a work upon the subject, I have not yet met with a single authenticated relation of the fall of a meteorite during a true thunder-storm; although the explosions and electric discharges of the meteors from which stones have descended, have, in some cases, been mistaken for thunder and lightning."

Extract from Dr. Sutton to Mr. Kirby, January 9th, 1824:—

"And so all this story about thunder-bolts ends in smoke! I suppose you have seen in the Bury paper the account of the wonderful vaults discovered out of St. Giles' Gates.* They are more wonderful (like many other sights) to read than to visit; in truth, they are no other than some old excavations to procure chalk and lime, which having been no longer worked, have been closed up for the last century; there are many such in the suburbs of our city."

Mr. Brayley concluded the correspondence with a letter from which I take the following extract:—

"The interest which you took in the supposed meteorite of Coddenham, and the assiduity with which you investigated it, induce me to hope that your attachment to the science is sufficiently strong to render it agreeable to you to become a member of the Meteorological Society..... I shall be most happy to propose you as a corresponding member."

The circumstances here narrated led to Mr. Kirby's becoming a member of the Meteorological Society, and to his taking still further interest in the science.

* Norwich.

Mr. W. S. Mac Leay to Mr. Kirby.

"June 11th, 1824.

"My Dear Sir,—I have to return you many thanks for your kind letter. As to my observations on the ancient *Œstrus*, they lead, I am sorry to say, to little certainty with respect to the species. I think, however, that with respect to the genus, it is Latreille's *Tabanus*.... I need hardly say, that I hope your antiquarian researches deduct no time from entomology. I am truly sorry to learn that your eyes are subject to inflammation, from using the microscope. I fear you use it by candlelight, than which nothing can be more injurious. Pray let us have something for the Zoological Club.

"Many thanks for your kind offer of the Stylops; I shall feel obliged by having anything like the genus. Stephens tells me that it has been found on the *M. albicans*, as well as *nigroænea*. I have looked in vain for it on both.....

"Believe me ever, Dear Sir,

"Yours most truly,

"W. S. Mac Leay."

Extract from a Letter from Dr. Sutton to Mr. Kirby.

"Norwich, July 14th, 1824.

"I have just been reading Bishop Heber's Life of Dr. Jeremy Taylor, and am much pleased with it: it seems he was a lineal descendant of Rowland Taylor of Hadleigh; there appears, however, to be a mistake, where he doubts the fact of his ever having been a Fellow of Caius College.* I have found from a MS. in my possession that he really was, though only on the foundation of Dr. Perse, and that upon his being put into a Fellowship at All Souls, Oxford, by Archbishop Laud, he immediately resigned the former."

Mr. Vigors to Mr. Kirby.

"Chelsea, March 3rd, 1825.

"My Dear Sir,—..... I now feel myself fairly enlisted in the ranks of Zoology, and it adds not a little to the spirit with which I feel myself inclined to prosecute my researches, to find that I have in

* See Heber's Life of Jeremy Taylor, Vol. i. p. 16. Also Aris Wilmot's Life of Jeremy Taylor, in which this point is discussed.

some degree gained the approbation of those who have obtained the highest grade in the science. I feel much indebted also for your observations on one or two emendenda, which I hope you will continue as you find opportunity and leisure.

"To come to the main subject of my letter,—I have to mention, that at a late meeting of the conductors of the Zoological Journal, it was considered that there could not be a more appropriate or valuable opening for the second Volume, now about to be sent to press, than your address to the Zoological Club, at its first meeting. Would the insertion of it meet your approbation?.... I need not say how much you have already made the Journal your debtor.

"It gives me much pleasure to hear from Mr. Mac Leay, that you intend being in town during April, and to take the Chair at the two Zoological Meetings in that month.....

"Believe me, my Dear Sir,

"Yours very sincerely,

"N. A. VIGORS."

A letter from Lord Lovaine, about this time, supplies us with the grounds of Mr. Mac Leay's remarks of June 11th, 1824; in it the following passage occurs:—

"I fear I shall occasion you some trouble: for having mentioned lately to some antiquarian acquaintances the light you had acquired and communicated to me respecting the ancient road, Mr. Gurney, M.P. for Norwich, asked me several questions, with a view to informing Mr. Amyott, who is curious in these matters. He was delighted when I mentioned that you were one of the investigators, and I doubt not you will be persecuted with enquiries on the subject. Forgive me this unintentional infliction."....

The following passage occurs in the postscript:—

"When the Customs Bill comes before Parliament, I will do my best to get a clause such as you desire inserted; and I will try my powers of persuasion upon Robinson. The great difficulty I apprehend would be to ascertain what are presents, and what for sale; honest people not being scrupulous about cheating the revenue. Your story will be a good illustration of the absurdity of the existing regulations."

Mr. Kirby to Mr. Dale.

"Barham, March 21st, 1825.

"My Dear Sir,—..... Your success in collecting has been great, and your industry apparently indefatigable. With regard to myself, I have scarcely taken a single insect since you left Barham. In fact, my time and attention have been absorbed by the work in which I have been engaged..... I have quite finished the third volume of the Introduction, and have already printed 250 pages of the fourth, so that I hope, before many months are elapsed, that great and overwhelming labour will be brought to a termination: till then I hope my friends will excuse my seeming neglect of them.

"I am, &c., &c."

Mr. Vigors to Mr. Kirby.

"Chelsea, June 30th, 1825.

"My Dear Sir,— . . . . I have to thank you for your hints respecting *Albertus Magnus*,* and hope to profit by them; I had occasion once already to consult his works,—on a different subject indeed from Natural History, and received information greater than I conceived could be the case from the darkness of his times. In my pursuits I hope to find something in him equally instructive; an observing and powerful mind like his must always strike out something valuable even among the worst times of ignorance and superstition.

"I have consulted some other of the older naturalists with much pleasure and advantage; such as Gesner, Aldrovandus, &c. Although there is not much originality in their observations, they bring together all that has been said on the subject of which they treat, by

* Albert the Great, a native of Lawingen, provincial of the Dominicans, afterwards Bishop of Ratisbon, 1260. This dignity he quitted, and returned to the employment of the University and the Cloister. He assisted at the Council of Lyons 1274, and died at Cologne 1282, greatly respected for his sanctity. His works were printed at Lyons, 1651, in twenty-one volumes folio. They consist of Commentaries on Aristotle, St. Dionysius the Areopagite, and Peter Lombard. Speaking of these, Ladvocat says, "All is logic in his writings, which are of no use but to fill up large libraries."

preceding writers, particularly the ancients, and thus possess a peculiar charm for me.

"I was in hopes of having it in my power to say something of the Zoological Institution, in which we have felt so much interest: but little has been done as yet,—in consequence, I am sorry to say, of the illness of Sir S. Raffles. A meeting of the subscribers was held at the Horticultural Society's Rooms yesterday week, when it was expected Sir Stamford would preside, but he was unable to attend. It was finally determined not to enter into any details at the meeting, but to appoint a Committee, with Sir S. Raffles as Chairman (with the understanding of his becoming eventually President), to put the business *en train*. You, Mr. W. Mac Leay, Dr. Horsfield, and myself, are on the list, as representatives of the working men of science, and many names of consequence belong to it whose owners seem anxious to enter into the management of the menageries, fishponds, &c. Nothing decisive can be done until next session of Parliament: but a prospectus ought to be sent out, and subscribers sought after in the meantime.

"Meetings of the Club have been pretty full of late, and we have had some animated discussions on our quinary and circular arrangements . . . .

"Believe me, my Dear Sir,

"Yours very sincerely,

"N. A. VIGORS."

Dr. T. W. Harris to Mr. Kirby.

"Milton (Mass.), August 1, 1825.

"Sir,—At the request of Mrs. Peck, it becomes my painful duty to acknowledge the recent receipt of your letter, dated June 22d, 1824, addressed to Professor Peck. A slight examination of these papers is sufficient to show how much they would have gratified him had he been living to peruse them. It is hardly necessary for us to say that they are cherished as new proofs of your long-continued friendship and regard, and we regret the circumstance that has so long delayed their arrival.

"Professor Peck, having languished several weeks after an attack of palsy, died on the 3d of October, 1822, in the sixtieth year of his age. With this letter you will receive an obituary notice, to which I refer you for some particulars of his life. His last entomological

publication is enclosed; it contains an account of two destructive insects—one a nondescript *Stenocorus*, allied to *S. bidens*, F.; the other a *Curculio*, which he calls *Rynchænus Cerasi*. It is probable Professor Peck had not access to the works of Herbst, who, as I am informed, had previously bestowed on the latter insect the specific name *Nemphar*.

"The cabinet of Professor Peck has passed into the hands of the Institution of Natural History. It is greatly to be regretted that he had not committed more of his entomological observations to paper. Many of our destructive insects were well known to him, as appears from the marginal notes of his MS. lectures.....

"I would present you, on the part of Mrs. Peck, the assurance of her high esteem for her husband's friend, and am gratified by the opportunity which she allows me of subscribing myself

"Very respectfully yours,

"THADDEUS WILLIAM HARRIS.

"I have added to the insects you wished for, a few which I thought might interest you. I send you a catalogue.....*Saperda bifasciata* has a bad name, for it is not, as you will see, bifasciated, but vittated. It is an insect which, in the larva state, is so injurious to our apple-trees, and is commonly known by the name of the *borer*, because it perforates the tree near the root, ascending sometimes two or three feet up the trunk. Several attacking the same tree, weaken it so much as to cause it to be blown down by the winds, or, by the numerous perforations, girdle it, and cut off the circulation of the sap.

Mr. Duncan to Mr. Kirby.

"New College, August 6, 1825.

"Dear Sir,—.....I have taken up Natural History as my solace in the decline of life,—and in sickness that has disabled me from prosecuting the profession of the law. I perceive in every natural kingdom diversities innumerable: these excite curiosity, which, without them, would stagnate;—similitudes less numerous: these, however, demonstrate the unity of design. The specimens which exhibit most clearly the final cause of their mode and condition of existence are best suited to my plan, which has commenced with an attempt to illustrate Paley's 'Natural Theology.' My variable

health, however, and other difficulties, make me sometimes regard with a desponding eye the slowness of my progress.....

"A plate representing the leg and head of the Dodo was published by the late Dr. Shaw in the 'London Miscellany:' I shall have pleasure in communicating a representation to the 'Zoological Journal.' The evidences are numerous. The stuffed skin is represented by Hyde, in his 'Religio Veterum Persarum,' to be in our museum: it was burned, with exception of the head and leg, by order of the Visitors, with many other skins found to be utterly decayed, about the middle of the last century.....

"I am, Dear Sir,

"Yours gratefully and affectionately,

"J. S. DUNCAN."

Mr. Kirby to Mr. Dale.

"Barham, Feb. 18, 1826.

"My Dear Sir,—I have neglected to thank you for your kindness [in sending some insects], as I ought to have done long ago. I was obliged to work so hard, in order to get the concluding volumes of the 'Introduction' out in time, that I was obliged to neglect all my friends: thank God, that labour is over, and I feel now more my own master.....

"I intend to look out this spring for more of the *Stylops*, and hope I shall be fortunate enough to get one for you. I should not be surprised if *Xenos* was also to be discovered in England, as we have a great variety of *Vespidæ*. Do look carefully after them,—such a capture would well reward your pains. I should have been much gratified could I have been with you and Curtis in Scotland.....

"I received a small box of insects lately from North America, in which, amongst other varieties, was *Cremastocheilus Castaneus*. I gave between three and four pounds for a specimen of this genus at Francillon's sale, Dr. Leach bidding against me,—I think different from this. I am also promised by Mr. Bankes, a fellow-countryman of yours, some Egyptian insects that will probably be new to me. Apropos of this gentleman, have you a vote for the University of Cambridge? If you have, I shall be greatly obliged to you if you will give it to him: he is, as you know, one of the present members;

he is fond of Natural History, and is a most agreeable man. He spent three nights lately here, and was highly gratified at seeing my insects. Do, if you possibly can, give him a vote..... If you go or return this way, I shall be glad to see you. I was much pleased to see *Acrida Bingleii* figured in our friend Curtis's admirable work.....

"Pray how is old Vine, your quondam insect gamekeeper? Does he still reside near Parley Heath?

"Yours, &c."

Mr. Brightwell to Mr. Kirby.

"Norwich, July 1, 1826.

"My Dear Sir,—I have made to-day one step towards an entomological discovery, and wish to crave your advice in my endeavour to perfect it. After a very heavy rain this afternoon my children brought me two specimens of a *Gordius* or *Filaria*, found upon *the leaves of an Arbutus;* one about two, the other about three inches long. I immediately proceeded in search of a beetle, and was fortunate enough to find a specimen of *Harpalus madidus*, the very insect I wanted, as I had found the *Gordii* in them. I placed the two *Gordii* upon some wet earth in a garden-pot, and put a broken glass over them; I then introduced the *Harpalus*, and watched its motions. In less than five minutes it attacked one of the *Gordii*, and cut it in pieces with its jaws, and very quickly devoured it, as an Italian does macaroni..... I saw it completely devour one of the *Gordii* and part of the other. They were very active and lively before they were devoured. The *Harpalus* appeared to me to cut them in pieces an eighth of an inch long, and to swallow the pieces whole; sometimes three or four of the pieces seemed pushed down the gullet at once, and then were put out again, and fewer shoved down at once. The *Harpalus* left some of the *Gordius* uneaten. I left him for ten minutes, and on returning found him devouring the rest, which he soon entirely finished. The *Harpalus* is now very lively, and has the two *Gordii* in him: I anticipate that all or part of the latter will live in the *Harpalus*, and that it will *die of worms*. How can I best contrive to keep the *Harpalus* alive, and detect the worms in it if they live? Can you suggest any farther experiments to be made with the *Gordii*, in case I find any part of them alive?

Any suggestions which occur to you I shall be obliged for. Every little step towards truth well demonstrated seems so important, that I am sure you will excuse my troubling you with these queries.

"Believe me,

"Yours truly and faithfully,

"THOMAS BRIGHTWELL.

"P.S.—Is it not very singular that the *Gordii* should be found in the upper part of the *Arbutus*, on the wet leaves?"

Mr. Kirby to Mr. Brightwell.

"Barham, July 10, 1826.

"My Dear Sir,—When your letter arrived containing your account of some interesting particulars of the history of *Filaria*, I was extremely busy; and the arrival of General Hardwicke last week, whom I was prevailed upon to accompany to Bury, prevented my answering it as I intended.

"Your finding some of the animals upon the leaves of a shrub was very remarkable; but I imagine they had fallen from some flying insect, or been rejected by one that had alighted on or climbed up the Arbutus.

"Your account of the proceedings of the *Harpalus* was very interesting, and it almost seems to follow that these *Gordii* have reproductive powers: that they have remarkable ones of resuscitation follows from Dr. Mathey's observations (Int. to Ent. iv. 237—240); and from yours they appear to possess analogy with the *Tæniæ*. I know no better course to recommend than supplying your *Harpalus* with insect food, and you will soon know whether he has swallowed a mortal foe; for if it should die before it has voided any of its intestinal foes, you will of course open it.

"When you have made all the observations in your power, it will form a very interesting little memoir for the Linnean Society or 'Zoological Journal.'

"I lately received from the Rev. L. Guilding a considerable collection of insects, mostly from St. Vincent's,—many new forms, and some great beauties. I hope to visit Norwich in the autumn, when we can talk over all these matters.

"I am, Dear Sir,

"Yours very truly,

"WM. KIRBY."

Dr. Horsfield to Mr. Kirby.

"Castle Street, Oct. 13, 1826.

"My Dear Sir,—I have deferred from time to time the acknowledgment of your very interesting and acceptable communication, as I found myself unable to enter fully into its contents, and to apply your valuable remarks to my own collections in a manner which, though it might not be satisfactory, would still show to you that I had paid the attention to your kind communication which it so eminently deserves. But I am sorry to say that, even to the present period, I have been prevented from devoting any time to the Coleoptera, having been necessarily employed almost exclusively in that order to which you know my attention is more principally directed.

"I must therefore beg your indulgence for my present neglect, while I assure you that I have not only read your letter repeatedly with great attention, but that, as far as I understood it, I greatly admire your arrangement and subdivision. And as you mention your intention of coming to London in the course of the next month, I make use of this early opportunity to request you to devote a few moments to my private collection in Castle Street, where I have also the solitary specimens, belonging to the Javanese Collection, of the groups which you have examined.

"Leaving, therefore, for the present, the scientific portion of your most valuable and acceptable communication, for which I offer you my most hearty thanks, until I can better acknowledge it, I proceed to those subjects which require a more immediate reply.....

"I am sorry to say that I do not possess any of the papers of Mr. Say, of Philadelphia, which have been published in the American Journals: they are contained, I believe, in the Transactions of the American Philosophical Society, and in the Journal of the Academy of Natural Sciences of Philadelphia. I think, however, that both works are in the library of the Linnean Society, and I will accordingly make inquiry, so as to direct you to them, on your arrival, without loss of time..... I recall frequently with great pleasure my late visit to Barham.....

"I remain, yours,

"THOS HORSFIELD."

Mr. Vigors to Mr. Kirby.

"33, Bruton Street, Nov. 13, 1826.

"My Dear Sir,—I snatch a few moments from the business of our

Zoological Society to tell you that we expect shortly to have a meeting of the Council, to come to some resolution about appointing a President, and the establishment of our future plans. Lord Stanley has been written to on the subject, and in all probability will accept the office.....

"My great object is to open the Museum to the public, and thus to let the establishment support itself, in which case we shall possess the means of making a noble collection in every branch of science. The same views extend to the Menagerie in the Regent's Park, where our ground has been allotted, and our fences, walks, &c., already laid out. All of these schemes I shall mention to you in detail when we meet, and I much wish to hear your opinion on their practicability and expediency. One of my great objects is the establishment of a collection of Comparative Anatomy. I put all my friends under requisition for supplying us with subjects.....Dr. Horsfield has given me a most interesting account of his excursion to Barham, and I much regret my inability to accompany him at the time. I hope, however, next summer to be more at leisure; and when our friends, the bees, make their appearance, I shall make an effort to profit by your kind invitation. I made but little progress this last summer in collecting:* the only thing of note I came across was a host of *Zabrus gibbus*, which I am told is rare in England.....

"Yours, my Dear Sir,

"Very truly,

"N. A. VIGORS."

Dr. Fleming, in the conclusion of a letter to Mr. Kirby, requesting the loan of M. Savigny's work on the Annelides, which he had experienced some difficulty in obtaining, remarks, in reference to his own publication:—

"The compilation of a British Entomology is a task which all have declined, even where best qualified. What, then, can be expected from me? I am fond of Entomology. What would I not give to be within a day's ride of Barham, and to have as an instructor the author of 'Apum Angliæ!' It was once my intention to have solicited, from different individuals, entomological monographs; but as I could offer no other reward than an opportunity of promoting the interests of

* In Ireland.

society by rendering my Fauna more perfect, I was advised to abandon the measure, as not quite suited to the present state of human nature. Yet such is the respect which I entertain for the author of 'Mon. Apum Angliæ,' &c., that I would venture to solicit him to make known to me those additions or alterations which farther experience has pointed out to be necessary in that group of insects which he has illustrated with so much success."

The Rev. Lansdown Guilding to Mr. Kirby.

"Kingston, St. Vincent's, Nov. 16, 1826.

"My Dear Sir,—Your long-expected and very kind letter has just reached me, and I cannot sufficiently thank you for the trouble you have taken in drawing up the first part of your catalogue. It is invaluable to me, unable as I am to consult large libraries..... I have not seen Captain Sheppard, but, if he be alive, I will drag him to this island. I have no companion,—no sharer of my labours and delights..... I rejoice to hear you are going to send me a box of insects; marked by your hand, they will be invaluable. I will send you all the *Melolonthæ* I can get, &c. &c. Any specimens you can send me as types do, I beseech you, for the sake of science, forward me: for want of these, and books, I cannot get on faster than a snail. I have a fine large packet ready for the 'Zoological Journal'..... I have found out the way to get mollusca from any island in the West Indies *alive*, and am drawing all the animals which you English people would otherwise never see. I wish every naturalist could draw. I will make my children learn, whether they like it or not. Who does not admire the daughters of Lister?.....

"Yours very truly,

"LANSDOWN GUILDING."

Mr. W. S. Mac Leay to Mr. Kirby.

"Havana, Jan. 3, 1827.

"My Dear Sir,—I fear that you will imagine that, by crossing the Atlantic, I have forgotten my old friends; but the fact is, that I was unwilling to write to you until I had carefully studied the 'Introduction,' and had enabled myself to give you some opinion upon this very useful and laborious work, for which I beg leave to return you my best thanks.

"It contains, indeed, much information quite new to me; and

although we differ in some important points, time, I have no doubt, will set all things right.

"The climate has, I thank God, hitherto agreed with me much better than that of England; but there is a languor attendant upon every kind of exertion, which makes reading or study here a very different thing from what it is in England.

"This is a good place for Wading Birds, Lizards, Butterflies, and Sphinges, but apparently nothing else.

"I live in the country, where I have a large house and garden: this is my principal amusement, as I take great pleasure in cultivating Orchideæ, particularly those which are parasitical on trees. The disagreeables are ants, scorpions, mygales, and musquetoes. The latter were quite a pest on my first arrival within the tropics, but now I mind them about as much as I did gnats in England. I was stung by an immense scorpion soon after my arrival, but was agreeably surprised to find the pain considerably less than the sting of a wasp, and of incomparably shorter duration. We must not judge of the pain of stings by the size of the insect which inflicts them, for I was stung by an immense *Pompilus;* my hand bled as if it had been punctured by a pin, but the pain was gone in five minutes. The bleeding, which is the consequence of the large size of the sting, in all probability carries off the venom from the system.....

"My Dear Sir,

"Ever yours most truly,

"W. S. MAC LEAY."

The Rev. Lansdown Guilding to Mr. Kirby.

"St. Vincent's, March 8, 1827.

"My Dear Sir,—I have been looking out most anxiously for the continuation of the list of insects you so kindly undertook to examine for me..... I have just finished a packet for the 'Journal' with 20 or 30 drawings, which I hope will please you. I have there given at great length the life and manners of the Sugar-cane Borers; but I fear cannot claim the rewards which have so long been offered for their extinction. My object will be to recommend the Society of Arts to expunge those advertisements: we may lessen their numbers by judicious conduct; but shall man attempt to annihilate beings which the Creator has made and supported for ages?..... I see Natural History introduced into school-books;—even were drawing more generally taught at school, the naturalists would swarm in the

next century. As you will probably see what I send home very soon, I forbear to trouble you with an account of my late occupations; I can only say, the more I attempt, the more a great deal does there appear to be done. Who can ever expect to get to the end of that Mighty Volume, which we can only read correctly after we have put off the ignorance and weakness of mortality? How I love to dwell on the idea that the examination of God's works in full light, and the celebration of his praises, will most likely be part of the employment of eternity!

"Pray tell me everything you have been doing lately, and all the zoological news of the year..... *Oiketicus* is certainly very nearly allied to *Psyche*, but probably will form at least a sub-genus, and make a wonderful and distinct little family. You have heard of those little bodies that look like pearls, found often round about ants' nests, which have never been accounted for: I have traced them out, and, for the present, believe them the parasite of those wonderful creatures whose abilities you have immortalized.....

"Ever your

"Much obliged and faithful servant,

"LANSDOWN GUILDING."

Mr. Drake to Mr. Kirby.

"Great Barrington, Berkshire County, Mass.,

"April 25, 1827.

"My Dear Sir,—..... I am sorry the insects reached you in so dilapidated a state. I will endeavour to make up the deficiency this season. Perhaps you are not aware how short a period they are to be procured here; for by July, or with the commencement of hot weather, they become extremely scarce until October, when they are rather more easy to be found; but I think I have observed that even the species most common here are not so numerous as those most common in England. I have received a letter from Dr. T. W. Harris, requesting specimens of the *Cremastocheilus*; but it was not in my power to oblige him, having forwarded all mine to you. He said he corresponded with you, and wished particularly for a specimen, as he has already discovered and described three species, apparently distinct from the only one of the genus which has till very recently been known, in the Journal of the Academy of Natural Sciences, Philadelphia, Vol. v. 381—389.

"The vulgar name of the bird with black dots on the breast and bright yellow on the wings, is Highhole or Dotted Eye..... It is, like most of the feathered tribe here, a migratory from South to North. I have observed that those that leave us earliest in the fall pay us the first visit on the return of spring.

"Our woods during the winter are nearly desolate of the feathered race.....

"Believe me, yours most truly,

"THOMAS DRAKE."

Mr. Vigors to Mr. Kirby.

"Hastings, August 23, 1827.

"My Dear Sir,—..... I have been enjoying the sea-breezes these few days past on the Sussex coast..... This is a beautiful country for entomologists, and I am much tempted to explore the numberless woods that are everywhere found interspersed in the varied scenery of this country. The season, however, is late for insects, and I have seen little in my rambles..... Indeed, my zeal for collecting insects in England has much subsided of late. I long for new fields and unnoticed forms, to gratify that thirst for discovery which must ever predominate in a pursuit like ours. This gratification I cannot hope to indulge in, unless by a sacrifice of my more interesting—perhaps more useful—engagements at home. My field for collecting must be confined, I suspect, to the market of London, where probably, after all, more subjects are to be had, and more extended as to the habitats from whence they come, than could be attained by the individual personal exertions of any one.

"I have lately entered into a correspondence with Dr. Leach, now at Rome, who promises to procure for the Zoological Society *all* the insects of Italy. If he get us a very small proportion I shall be very well content. We are not rich in our London collections in European insects, at least those of continental Europe; and any number of species would be a great acquisition to us..... Have you done anything respecting Dr. Bigsby's insects?

"Believe me, my Dear Sir,

"Very faithfully yours,

"N. A. VIGORS."

Mr. Dale, in writing to Mr. Kirby, Sept. 8, 1827, remarks :—

"I must not forget to tell you that, after hard work for two years, during which time I have caught upwards of 500 *Andræna barbilabris*, all of which were or had been infested with larvæ of *Stylops!!* I have at last taken four of that bee with pupæ, and contrived to get one of the grand desiderata at last. One bee had three larvæ in it, some two, but mostly only one. I took one bee of *nigroænea* with the exuviæ.

"I had a box of insects from Russia, and am surprised that nearly all are the same as British, or reputed British."

Amongst the number of those who corresponded with Mr. Kirby was Mr. Curtis, frequently referred to in these pages, and so widely known for the benefit which his pencil and works have conferred upon Natural History. In the year 1824, this gentleman dedicated his first volume of British Entomology "To the Rev. William Kirby, as a grateful acknowledgment of many obligations, and in testimony of sincere regard." The letters which passed between them were generally relating to the more technical parts of the science, unless, indeed, some matter of interest occurred not otherwise likely to be heard in the retirement of Barham,—such as the following incident, which I extract from one of Mr. Curtis's letters:—

"Oct. 12, 1827.—I have just heard from the Hon. Mr. Harris, who was delighted with a fire-fly that I sent down to Heron Court alive; and I should not have neglected to forward one to Barham had not the cold weather killed them a few days after their arrival. It was most unfortunate that the Linnean Society was closed, as they would have been a great treat at the meeting, and, I believe, a great novelty, as I have understood they were never before seen *alive* in *Europe*. Having several observations to make upon them, I intend sending an account to the Linnean Society."

Mr. Kirby to Mr. Dale.

"Barham, October 26, 1827.

"My Dear Sir,—Many thanks for your kind letter, and for your

attention to my request in giving your vote to Mr. Bankes: I concluded that of course you would be at the election, but I am sorry that it should have stood in the way of your plans.

"You speak of the present having been a bad season for collecting. What will you think when I tell you that, in a letter I received from Mr. Stephens, he informs that at Ripley in Kent, in the short space of six weeks this summer, he collected 1900 species, and nearly 5000 specimens of insects, all of which he found time during that period to set?.....

"He says he had the good fortune to take *Choragus Sheppardi*. He has also taken many novelties among the Hymenoptera.....

"Amongst the facts he noticed was the extraordinary appearance of *Thecla pruina*, which was distributed over a tract of at least four miles square, in thousands and tens of thousands, while in all other parts not a single specimen was to be seen. He took ten dozen round a single bramble bush in less than three-quarters of an hour: not a single specimen has been seen.....

"I shall be in London, if alive and well, in November, when I hope to see his treasures; so that you see in some districts insects were numerous this year.

"I have been preparing a new edition of the 'Introduction;' and for many weeks have also been employed in naming our friend Captain Hancock's insects,—a most laborious task this, you may imagine; so that I have no intelligence to communicate to you of my own fortunes in entomology.....

"I had a letter from Mr. Mac Leay some time ago; he was in good health, but much incommoded by the heat of the climate. His father has been so overwhelmed with official business, that very few of his friends, if any, have heard from him; and I don't find that he has sent over any insects..... I have had some concern in a little work, a new and very enlarged edition of which has lately been published by Miss Jermyn of Ipswich, called *The Butterfly Collector's Vade-Mecum*. If I knew how to get it to you, I would send you a copy.

"I am, &c. &c."

Dr. Harris to Mr. Kirby.

"Milton, Massachusetts, Oct. 15, 1827.

"Reverend Sir,—The receipt of your polite letter has emboldened me to address you in reply. It was peculiarly unfortunate that the letter arrived so late that I could not avail myself of the information

it contained in regard to the *Cremastocheili*, before the publication of my account of three species in the 'Journal Acad. Nat. Sciences of Philadelphia:' the 'Zoological Journal' No. 8, for April 1826, had not then reached me. Four species of the genus are now known to me. [Here follows a description.]

"The Rev. Thaddeus Mason Harris, D.D., whose name and title strike you from some coincidence with mine, is my father, the author of the 'Natural History of the Bible,' which has been honourably noticed in England.....

"I must solicit your indulgence for this very long letter: I would, indeed, have written much more, were I assured that my questions and remarks would not be tedious to you.

"Of books I have very few, and companions in science a still smaller number; I shall, therefore, feel highly gratified by your encouragement to continue the correspondence.

"Any insects which I can furnish are at your service, if you point out the way in which they will reach you.

"Permit me not to hope in vain that you will soon honour me with a reply.

"Your humble servant,

"THADDEUS WILLIAM HARRIS."

Mr. Kirby to Mr. Denny.

"Norwich, Oct. 17, 1827.

"Dear Denny,—I delayed answering your letter till my arrival here, both because my time at Barham has been much occupied, and because I thought a letter from hence would be more interesting to you..... I have done very little in entomology this year,—I mean as to *taking* insects,—though I have been much engaged in preparing for a new edition of the 'Introduction to Entomology,' which, on account of the many changes of names, has been a very laborious undertaking.....

"The Museum [Norwich] keeps increasing, particularly in Conchology and Fossils. They have recently got a very fine fossil specimen of a *Testudo*, found at Harwich.....

"I have been very busily engaged in arranging Mr. Brightwell's Coleoptera for the Museum. I am to have the duplicates for my trouble. Mr. Sparshall has got some very good things amongst his Brazil insects.

"I hope, when you have got your museum into good order, you

will have less labour upon your shoulders, and be sometimes at leisure to take an entomological excursion, and see what the neighbourhood produces.....

"I have been endeavouring to persuade ——— to become a dealer in entomological pins and tools; it would produce him a little profit, and be a great convenience to the gentlemen here that collect insects, as there is no shop in the place that can supply them with proper pins.....

"I am, yours very truly,
"WM. KIRBY."

Mr. Vigors's next letter to Mr. Kirby, which was dated Dec. 29, 1827, reports well of the progress of the Zoological Society. He says, after thanking Mr. Kirby for a valuable skin—"The best news which I have for you is, that Lord Lansdowne has accepted the office of President for the first year. When once he has taken it, we hope he will find it not incompatible with his other pursuits, and not too laborious to continue in it." In the same letter Mr. Vigors speaks also of the "Zoological Journal," of which he was now the chief, if not the sole, editor:—"We want something from you for No. 10 of the Journal.....We have an excellent paper from Prince C. L. Buonaparte. He has been in London, and has found four new species of North American birds in our cabinets, besides some rare ones."

Mr. Drake to Mr. Kirby.

"Great Barrington, Berkshire Co., Mass.,
"March 21, 1828.

"Dear Sir,—I am induced again to address you so soon after having forwarded a packet of insects, by the receipt of a letter from Dr. Harris, which contained much interesting matter. He has ere this forwarded a few insects to London for your acceptance.....

"I have not been able to procure much information respecting the works published here. I wrote to Messrs. Bliss and White, large booksellers in New York, but did not obtain any satisfactory infor-

mation. The city of Philadelphia certainly takes the lead in scientific pursuits; her citizens are more wealthy, and not so much engaged in mercantile speculations. Dr. Harris [in a letter] mentions that wheat is not cultivated on the sea-shores of Massachusetts, and, indeed, its culture here is but rare; and I have not been able to find any specimens of the fly you allude to: Dr. Harris has seen it, and considers it belonging to the Tipula family.

"Its history is detailed in the Transactions of the Agricultural Society of New York, Vol. i. Dr. Harris thinks this species is undoubtedly distinct from your *Tipula Tritici*. . . . . .

"I am, your obliged and faithful,

"T. DRAKE."

In the next letter, dated Sept. 15, 1828, Dr. Harris throws some light upon the history of entomology, as to its progress in the United States. He says:—

"In consequence of the repeated solicitations of many friends and gentlemen who are desirous of becoming acquainted with entomology, or who are interested in the science from its connection with agriculture, I have commenced writing descriptions of our most common insects, with a view of publishing a 'Faunula Insectorum Bostoniensis.' Notwithstanding the advantage of a good collection in my own cabinet, and access to the Fenton Collection, which afford above 3000 species, natives of Massachusetts, Connecticut, and part of New York, the great want of books is a serious obstacle to the attempt"

The letters from which these extracts are taken could not but prove highly gratifying and interesting to Mr. Kirby, containing, as they did, the most accurate and careful descriptions of new species discovered in America, accompanied with observations upon those which had been noticed in English publications.

The name of the writer of the following letter, with which I shall conclude this chapter, is too well known to require any comment.

Bernard Barton to Mr. Kirby.

"Woodbridge, 6/27, 1829.

"Esteemed Friend,—I have received a letter from a literary friend at Nottingham, begging to know if I could procure for some entomological friend of his a specimen or two of the rare insect *Cicindela sylvatica*, which is to be found, he says, on Martlesham Heath, in the spring and summer months. Of course such an object of research is quite out of my way; and were I even to go to Martlesham Heath to seek it, I should be totally at a loss whether it flew in air, crept on the ground, or had its habitation under it. Had he asked of me what song the Syrens sang, as a poet, I might, with Sir Thomas Brown, have hazarded a wide solution; or had his inquiries had reference to the result of withdrawing one-pound notes, and the quantity of specie necessary to replace them, my clerkly calculations might have stood me in some stead: but on a subject of entomology, of which I know not whether it be a worm, grub, or butterfly, I am totally in the dark; nor do I know of an entomologist but thyself within twenty miles. Pray, is it in thy power to assist me to gratify my friend, and, through him, his friend? If it be, thy character for kindness and courtesy assure me my suit will not be preferred in vain.

"I had at first thought of drawing up, in *forma pauperis!* a poetical petition for this insect; but the intractability of its name for metrical purposes deterred me: it may be very rare and very beautiful, but its appellative is not very tuneful or rhymable. Who could put, or think of putting, Martlesham Heath into verse by name?

"Though I have frankly avowed enough of my ignorance on thy favourite science to cut me off from all hope of being elected Laureate to the Entomological Society, still I am sufficiently a cordial lover of Nature as a poet, to feel hearty sympathy with thy pursuits. It is impossible, I should think, for any one to have followed them with the zeal and industry thou hast devoted to thy favourite science, without increasing his benevolence as a man, and his piety as a Christian; and these are qualities which the most unentomological of poets is bound to admire and love.

"With every assurance of sincere respect and best wishes, and every needful apology for the freedom of this application,

"Believe me, thine truly,

"BERNARD BARTON."

CHAPTER XXI.

Publication of Sermons.—Appointment made by the Trustees of the Earl of Bridgewater.—Mr. Kirby publishes his Treatise.—The Fauna Boreali-Americana, &c. &c.

In the year 1829, Mr. Kirby published a volume of Sermons.* The preface gives us the motive of the undertaking, as well as the source from which the sermons were derived.

"Some years ago, I happened to meet with a posthumous volume of the pious and learned Lancelot Andrews, Bishop of Winchester in the reign of James I., which, amongst other sermons, contained seven *On Our Lord's Temptation.* Afterwards, being desirous of preparing a course of Lent Sermons, I thought it might answer my purpose, and be profitable to my congregation, if I followed the lead and example of the good bishop, by considering, in all its lights and bearings, that great and interesting transaction; and, moreover, if I made such use of his materials as their nature, and the difference of time and taste, rendered advisable. Accordingly some parts I omitted,—others I altered, or gave a new turn to; some I expanded,—others I retrenched; and frequently, when it seemed requisite, added original matter. My object was so to mix *things new and old* as might render what I wrote most edifying and useful to my hearers, and at the same time most

* Seven Sermons on Our Lord's Temptation, &c. London: Longman and Co., 1829.

forcibly seize their attention by an air of *novelty*,—literally the result of the *antiquity* of the foundation upon which my superstructure was built."

"My motive for this publication—besides the desire,—I trust no illaudable one,—which I had long felt to show that, while I had devoted so much of my time and thoughts to the study of God's *Works*, I had not been wholly negligent of His *Word*, or of my higher duties—was an inclination to try whether the general reader might not be interested as well as profited by bringing forward, in a dress better suited to the taste of the times than that with which their authors invested them, some of the rich and recondite stores to be derived from the works of our old divines, especially of that great and eminent theologian to whom I have been so much indebted on the present occasion."

To these seven sermons was added the pious bishop's celebrated sermon upon the *Passion*,—also altered as to its language, and adapted to a more modern style.

This volume was intended to be followed by another, containing original sermons chiefly relating to the mystical language of Scripture: the MS. was brought to a great state of forwardness, but never completed.

It is worthy of especial attention that the above small volume of sermons is the only work which Mr. Kirby ever published, coming strictly under the name of theology. "A man's heart deviseth his way: but the Lord directeth his steps."* Though we recognise this as a general truth, and know that not a sparrow falleth to the ground but by the will of God, yet to be able to trace the end for which the Almighty acts is not always given to us short-sighted mortals. But surely here, without presumption, we may indulge the thought that we clearly discern the working of Providence.

* Proverbs, xvi. 9.

We have seen how many were the efforts made by Mr. Kirby, and how deep were his longings, and how earnest his aspirations, that he might find employment for his talents in unfolding the mysteries of God's Word; yet, by the easy and natural exercise of the good qualities by which he was blest, he was continually led from his purpose. Now to assist one in following his favourite study of Natural History; now to examine and describe insects, which poured upon him from all parts of the world; and now, again, to make known the result of his own observations on the wondrous mechanism of the pigmy subjects of creation,—the knowledge of which, acquired by microscopic aid, has been so beautifully and ably used against the scoffs of those who would say that it is folly to suppose that a God, such as the Christian acknowledges and worships, could endure to have the immensity of his intelligence engaged upon a spot of earth, which discoveries have shown to be but as a speck amidst the vast and stupendous systems by which it is surrounded.

There has been no lack, during the present century, of able theologians to bring forth the treasures of ages that are past, or to add yet more to those precious stores as circumstances might require. But it is impossible to estimate the loss which would have been sustained by the interests of religion, had natural science been deprived of the pen of Mr. Kirby, who, devoting his whole spirit and energy to the exposition of its latent charms, rescued it from the hands of those who would dwell upon second causes, to the detriment, and even to the exclusion, of the First. There were, it is true, able coadjutors who delighted to join hand in hand, and with him—

> "To trace in Nature's most minute design
> The signature and stamp of power divine."*

* Cowper's "Retirement."

And the numbers are yet increasing who follow in the same well-beaten track, and still, by their research in the symbols of Creation's page, proclaim afresh the glory of

"Him first, Him last, Him midst, and without end."

But, far from being envious of the well-earned reputation of another, these are the very men who delight to set forth the name of Kirby as worthy to stand foremost in the ranks of those who have given proof of their learning and piety by their writings.

To have the power of acknowledging benefits received, or expressing approbation of worth and merit, constitutes a part—and by no means an insignificant part—of the pleasure of those who, by honourable means, have obtained positions of dignity and power. Mr. Kirby, although living in the retirement of Barham Parsonage, was not removed from public notice. Having passed the age of three-score years and ten, he might fairly have been overlooked as regarded the distribution of appointments of honour which required active service: but such was not the case. Those who carried out the pious intentions of the amiable Earl of Bridgewater did not forget the past services of Mr. Kirby, when they had to find one who could do justice to the most comprehensive portion of the scheme proposed. The following letters bearing on this subject are not without points of interest:—

Mr. Children to Mr. Kirby.

"British Museum, Nov. 16, 1830.

"My Dear Sir,—I write to you, by the desire of the Bishop of London, on the following subject:—

"The late Lord Bridgewater left by his will the sum of £8000, for an essay or essays on the Being and Attributes of God, as illustrated by His works, to be written by a person or persons to be nominated

by the President of the Royal Society. Mr. Gilbert, not feeling himself competent to decide on such a subject, has requested the assistance of the Archbishop of Canterbury and the Bishop of London, who have acceded to his wish, and undertaken the arrangement of the business. His Grace and Lordship have determined to divide the subject into eight parts, seven of which are entrusted to as many gentlemen of high attainments..... The eighth is yet to be appointed; and the subject of the essay, which it will be the duty of the person named to write, is 'The Habits and Instincts of Animals.' In all the essays the main point to be kept in view is the demonstration of wisdom and design in the works of Creation,—the proof, in short, of the existence of an intelligent and Omnipotent Creator, as derived from His works; and the instances, which must be taken from *every* class of the animal kingdom, must be of the most striking kind, and the inferences deduced from them strongly and logically enforced..... The Bishop of London requests to know if you will undertake the essay in question, and (for there is no time to be lost) that you will address your immediate answer to his Lordship, St. James's Square, London.

"I am, my Dear Sir,

"Ever most truly yours,

"JOHN GEO. CHILDREN."

Mr. Kirby lost no time in communicating the substance of the above letter to his friend Sutton: in the conclusion of his communication he says:—

"This is the proposal,—certainly very flattering to me,—which I received yesterday, with a desire to answer it *immediately*. It put me, as you may suppose, in a great flurry and excitement of the nerves. I really was not able to send my answer by return of post; the *pros* and *cons* kept starting up in my mind alternately, and I wished more than a little that you were at my elbow to enable me to decide. At length I have determined to accept the honourable office thus unexpectedly devolved upon me. What principally countervailed my fears lest I should fall short of public estimation, was the idea that I should incur blame justly, if I declined applying a talent so long cultivated, to the service of the sanctuary: so the die is cast. I have written my answer, and it goes to-night."

The following was Mr. Kirby's answer:—

Mr. Kirby to The Bishop of London.

"My Lord,—I feel highly flattered and honoured by the proposal transmitted to me by Mr. Children, of the British Museum, from his Grace the Archbishop of Canterbury and your Lordship.

"Nothing, certainly, would be more gratifying to me than to employ my talents, such as they are, in the great cause of religion, especially in times like the present; the course of my studies having been a good deal directed to Natural History, especially to a department of it most fertile in proof of the power, wisdom, and goodness of God, as manifested in the habits and instincts of insects. Therefore, though I cannot hope

'That to the *highth* of this great argument
I may assert eternal Providence,'

and produce an essay equal to the subject, and fully corresponding to your Lordship's expectations; yet, if sufficient time is allowed me, I humbly trust, with the divine assistance, I might be able to embody and concentrate a number of facts and observations that would strikingly demonstrate the being of God, and illustrate His adorable attributes. May I be permitted to observe, that there are many points connected with the animal economy besides their habits and instincts,—such as their geographical distribution, relative numbers, adaptation to certain ends, affinities, analogies, &c.,—all of which indicate the design and preconceived plan of an Almighty and good Creator? Whether his Grace and your Lordship have limited the gentlemen who have undertaken the various departments of the great and useful work, so liberally provided for by the late Lord Bridgewater, to any particular period of publication, Mr. Children did not inform me; but, as I have no doubt that if you have, it will afford ample time to do full justice to the various subjects to be treated of, I beg leave to say that I will do my best satisfactorily to accomplish the work which his Grace and your Lordship are disposed to entrust to me.

"I am, my Lord,
"With great respect,
"Your Lordship's obliged and obedient servant,
"Wm. Kirby."

Mr. Children to Mr. Kirby.

"British Museum, Nov. 29, 1830.

"My Dear Sir,—I am very sincerely rejoiced that you have under-

taken to write the essay on the habits and instincts of animals. The Bishop of London, who, you know, is one of our trustees, did me the honour to consult me on the subject; but with respect to the recommendation of yourself as the author of the essay in question, his Lordship forestalled me, and, whilst your name was on my lips, pronounced it himself. I have no part in the work, nor do I know the names of all your colleagues, and still less whether they are likely to be at the Royal Society on the 30th..... If you resolve to come, I shall depend upon the pleasure of seeing you, and of thanking you in person, as I now do by my pen, for your kind present of the Valparaiso insects, which I shall receive with great delight.....

"I am, my Dear Sir,

"Very truly your obliged and faithful servant,

"JOHN GEO. CHILDREN."

It is almost needless to say that Mr. Kirby received many letters of congratulation and encouragement. I shall make an extract but from one, written by his sister, who naturally participated in the newly-acquired honour of her brother:—

"Had I talents like yours, how should I glory in using them in the same way! It delights me to think what a rich reward you will reap from the satisfaction you derive from your present labours, great as they must be inevitably: this is much greater than the bubble fame —yet that, perhaps, is not to be despised when the subject is considered. You will say, perhaps, I am flattering you. No, dear William; I am too old to flatter any one, much less one I so much love and venerate."

This trifling extract has its value, as it gives a fair specimen of the solid ground upon which the affection and sympathy of Mr. Kirby and his immediate relatives were based. He returned the following reply:—

Mr. Kirby to Mrs. Sutton.

"11, New Ormond St., London, Dec. 1, 1830.

"My Dear Sister,—I shall address this letter to you, which my good Doctor will excuse, as I long to return you my thanks for your

very affectionate letter, and the kind expressions it contains; but I must disclaim in the *strongest* terms the superiority you attribute to your brother. I am *far* behind you in what is better than all knowledge or scientific eminence,—unwearied and unceasing efforts to relieve the wants and instruct the ignorance of your fellow-creatures in humble life. Even in scientific attainments I am, I fear, regarded in a higher light than I really merit. By the goodness of God I am what I am, and I hope, I am sure, no diligence on my part will be wanting, whatever lack of ability there may be, to answer the expectations of those eminent persons who have devolved upon me this honourable and flattering office.

"I went yesterday to Somerset House with Mr. Children. There was a very strong contest for the Presidency [Royal Society]. Most of the scientifics were for Mr. Herschel, but I voted for His Royal Highness (for reasons I gave Sutton in a late letter). There were 119 for H.R.H., and 111 for Mr. Herschel . . . . .

"I shall find it necessary, I believe, to spend a couple of months in town, to collect materials from the different libraries, and think of taking lodgings for that purpose . . . . . This vicinity will answer very well, being within a short walk of the B. Museum, Soho Square, &c. . . . . .

"I am, my Dear Sister,

"Yours most affectionately,

"Wm. Kirby."

The wide scope of Mr. Kirby's subject will account, in a great measure, for the length of time in which he was occupied with making preparations for his Bridgewater Treatise: there were other duties, it must be remembered, which called for his first consideration. He lost no opportunity of consulting his friends upon the habits and instincts which they had noted in foreign climates: this was chiefly done by personal intercourse, but occasionally by letter. The sources of his information are sufficiently indicated in the work itself.

Mr. Kirby and Dr. Buckland laboured under some personal disadvantage (though the work, taken as a whole, derived benefit) from the circumstance of publishing

their treatises some time after the other six had been before the public.

Had all the treatises been published at the same time, repetition—at least as far as regarded illustration—would have been unavoidable; as the matter then stood, it was deemed by Mr. Kirby proper to give up many points which had been already handled, although in different language. This rendered alteration in the MS. necessary, and accounts for yet farther delay taking place. In the year 1835, the work was published in two volumes, with plates well executed by Mr. C. M. Curtis.

This book has been so extensively read by men of literature, and is now, by its republication, brought within the reach of every one who could have even the curiosity to see it, that I feel it is unnecessary to notice its contents. It may, however, not be uninteresting to observe, that the suggestions on the sublime subjects referred to in the Introduction, were not theories hastily adopted by Mr. Kirby; they were the result of his biblical research, and constant meditation, for a period of time extending over fifty years. Had the second volume of sermons been published, to which allusion has been made,* much of the matter of the Introduction to the Bridgewater Treatise would have appeared in them. It was generally supposed,—indeed there was little difficulty in ascertaining the fact, even before the publication of the Treatise,—that Mr. Kirby was a follower of Hutchinson;† he was not, however, a blind follower of any

* Vide page 433.

† John Hutchinson, Author of a mystical and cabalistic interpretation of the Hebrew Scriptures, was born in 1674, at Spennithorne, in Yorkshire. Having received an excellent private education, he became steward to the Duke of Somerset, who bestowed upon him many marks of confidence and esteem. In 1724, he published the first Part of his work, entitled "Moses's Principia," in which he

master, and he by no means adopted all the speculations of this somewhat eccentric philosopher, as to the modus operandi by which the machinery of the world was set in motion.

"Cave ab illo qui unicum librum legit," was a maxim of Thomas Aquinas, conveying a more liberal sentiment than writers of his age are wont to have the credit for. From whatever source Mr. Kirby derived the rule, it was one very strictly observed by him; for while he weighed well the arguments he met with on all sides, and profited by the opinion of many, he was fettered by the system of none. It would be a long and somewhat wearisome task to test where he agreed, and where he differed from Hutchinson; it is sufficient here to observe, that he fully coincided in his opinion of the certain accuracy of Scripture. He stood firm upon the ground "that the venerable Hebrew tongue is as

attempted to refute the doctrine of gravitation as taught in the "Principia" of Newton. The second Part, published in 1827, maintained, on the authority of Scripture, the existence of a *plenum*. He afterwards published several other volumes in elucidation of his views, which, though written in a rambling and uncouth style, evince a profound and extensive knowledge of the Hebrew Scriptures. He died on the 28th of August, 1737.

According to this writer, the Old Testament contains a complete system of Natural History, Theology, and Religion. The Hebrew language was the medium of God's communication with man; it is therefore perfect, and consequently as a perfect language it must be co-extensive with all the objects of knowledge, and its several terms are truly significant of the objects which they indicate, and not so many arbitrary signs to represent them. After Origen and others, he laid great stress on the evidence of Hebrew etymology, and asserted that the Scriptures are not to be understood and interpreted in a literal, but in a typical sense, and according to the radical import of the Hebrew expressions. By this plan of interpretation, he maintained that the Old Testament would be found not only to testify fully to the nature and offices of Christ, but also to contain a perfect system of Natural Philosophy.

accurate in philosophical things as in divine, every root containing an idea which diffuses itself into its several branches."*

Mr. Kirby's firm conviction was, that no interpretation of the Book of Nature could be correct if it militated against the true interpretation of the Word of God. He did not, however, adopt an interpretation of the latter, and by this endeavour to frame a theory as to the arrangement of the former; much had yet to be learnt in either study, and, when rightly interpreted, the two he conceived would be found to harmonize. Thus, when any new system was propounded, he did not reject it simply because he could not trace it in the language of Scripture; for if true, he felt sure it would be yet discovered there as a beauty which had hitherto been overlooked; but upon its own merits, and upon these alone, he opposed it. Mr. Kirby was fully aware that many mysteries had yet to be solved by the naturalist, and many lessons yet to be learned by the biblical student. The light which he himself enjoyed he regarded but as the grey and uncertain light of dawn; and he rejoiced in the hope that all would be one day bright and clear as the sun in the unclouded noon day.

In the first and second expeditions which Sir John Franklin commanded to the Polar seas, Dr. Richardson† was associated with him, and was entrusted with the charge of the Natural History department. Amongst the other objects collected, the insects formed a very interesting feature, "not only on account of the number of individual species, which is considerable, but also on account of several new forms which they present to the scientific entomologist,

* Prosser's "Key to the Hebrew Scriptures." London, Duncan, 1838.

† Now Sir John Richardson.

—some of them connecting tribes before placed far asunder, and filling up many vacant places in a scientific arrangement of these minute but not unimportant animals; others exhibiting an Asiatic aspect, and the majority representing, as it were, known European types, and though varying from them in characters of more or less importance, known European species; so that the American Entomologists, for want of comparing one with the other, appear often to have confounded them."

Dr. Richardson wishing to have these insects described by some able entomologist, applied to Sir W. J. Hooker upon the subject; the latter gentleman immediately wrote to Mr. Kirby, and induced him to undertake the task. This proposal was readily assented to, and the insects forwarded to Barham. Mr. Kirby at once commenced his task, and was much gratified at the inspection of the collection, especially with the great number of new Coleoptera. The reason of the insects of this order predominating, is given in the following letter:—

Dr. Richardson to Mr. Kirby.

"Chatham, May 15th, 1829.

"My Dear Sir,—I am much gratified to learn that you have so many new beetles in the collection, and feel obliged to you for the honour you have done myself and my companions, in naming species after us. Mr. Dease, one of the Hudson's Bay Company, and an inmate of Fort Franklin, used to assist me in collecting insects: if you can give his name a Latin dress, I should be glad if you commemorate his good will by devoting an insect to him.

"I am particularly pleased with your remembrance of our faithful Esquimaux. The beetles being more easily carried were most looked after; we could not conveniently carry with us the means of capturing the Lepidoptera, and as for the smaller and softer insects we were obliged to avoid collecting them, not having leisure to dispose of them properly: hence the irregularity of the collection as to the different tribes. The swamps of Hudson's Bay swarm with a very great variety of

beautiful dragon flies, and I had collected a few, but they became brittle, and were broken to pieces . . . .

"The first part of the work, containing the Quadrupeds, is now printed . . . . As soon as I can get a copy I shall have much pleasure in sending you one. It has run to upwards of three hundred pages of letterpress.

"I remain, Dear Sir,
"Very sincerely yours,
"JOHN RICHARDSON."

The business connected with the "Bridgewater Treatise" will readily supply the reason for this work being for a time laid aside: it was not till the year 1837 that Mr. Kirby's volume, forming the fourth of the Fauna Boreali-Americana, made its appearance. In the Introduction to this book, there is a brief but interesting sketch of the progress made by Natural History in obtaining the favours and countenance of the ruling powers. Linnæus is shown by his labours and studies to have attracted the attention of men in authority, so as to induce them to regard with favour those who were devoted to the study of Natural History. Thus it was that Kalm went out to North America; Tornstroem and Osbeck to China; Forskahl to Arabia; Thunberg to Japan; Sparrman to China and the Cape; Hasselquist to the Levant, Palestine, and Egypt, &c. &c."

To Sir Joseph Banks is assigned the credit of having been the first to interest the government of our country in behalf of Natural History. He laid the foundation of his own fame without any such assistance; for, accompanying Capt. Cook, with the aid of Dr. Solander "he made such collections, both in Zoology and Botany, as had never before rewarded the zeal and efforts of any single individual." Sir Joseph knew, therefore, from personal experience, the vast amount that might be added to the treasures of natural science by the employment of industry and learning; he, therefore, used "the influence he had acquired with the

government in promoting the interests of that science, and securing to it a portion of the same encouragement which had been bestowed upon other branches of art and literature; so that to examine and collect the natural productions of a country began at length to be regarded as an important object, and to form part of that official duty contained in the instructions delivered to commanders of voyages and expeditions of discovery."

After thus noticing the history of the collection he was about to describe, Mr. Kirby speaks of the method of arrangement which he proposed to adopt. He saw objections to his following the track of those who had gone before him; the difficulty was principally felt with regard to the Coleoptera,—by far, as we have seen, the largest portion of the collection.

His reason for not strictly following either M. Latreille or Mr. W. S. Mac Leay, are thus given:—"M. Latreille, by following Geoffroy's method, in which the number of the joints of the tarsi is assumed to indicate the primary sections of the order, though in general he has discriminated, limited, and located his groups with a felicity peculiar to himself, yet in consequence of his assumption of the above system as an infallible guide, has in many instances been induced to separate groups that are evidently related, and to scatter them far and wide through his various sections.

"Mr. Mac Leay likewise, by assuming the number *Five* for the universal regulation of every group, whether primary, intermediate, or ultimate, of the whole animal kingdom, though in many cases it may prevail, has by no means made it clear that it is the key-stone of the mighty arch of nature, or the clue by which her mazy labyrinth may be traced through *all* its windings and recesses."*

* Fauna Boreali-Americana, Part the Fourth, Introduction, p. xxiv.

After setting forth the difficulties which beset the path of him who would delineate upon paper the individuals comprising any department of the three kingdoms, so as to maintain all its connections undisturbed and unbroken, Mr. Kirby proceeds:—"So that it is a hopeless case to attempt an arrangement according with nature *in all its parts;* vain man, with all his boasted powers of intellect, cannot conceive, much less utter and embody it. All that he can accomplish is to give some general idea of it, and to describe some fractions of it. He can also attend to the composition of his groups, and keep those together which are nearly related; but as to conterminous groups, he will often be at a loss which is nearest to the one in question, for from different parts of the same groups a variety of others will often branch off in different directions. In the following pages, therefore, profiting by the labours of my predecessors, I have sometimes followed one and sometimes another, according as they appeared to me best to have interpreted nature, and sometimes, where it seemed expedient, I have entered new paths in my arrangement: it has been my endeavour to make my groups as near to nature as possible, but with regard to the series and concatenations of them, for the reasons above assigned, it was not possible to place them on paper, as they are inscribed by the Great Author of Nature in her pages."*

I have been induced to set forth the author's own plan, drawn from the Introduction, as it would occupy too much space to give extracts from a quarto volume containing upwards of three hundred pages of descriptions of insects, so as to convey any accurate idea of the arrangement pursued.

In order to make the work as complete as possible,

* Fauna Boreali-Americana, Part the Fourth, p. xxv.

descriptions are added of several insects collected by Mr. Kirby's friend, Dr. Bigsby, in Canada, as well as some he had received from Captain Sheppard and other friends, brought from the British Provinces. In making the enquiry as to how far the catalogue may be regarded as giving a just estimate of the insect tribes of North America, it must be borne in mind that they were collected under the greatest difficulties, so that many doubtless were left behind, and of those that were captured some specimens of the Diptera and the Libellulina were injured by carriage so as to prevent their description: that the rest of the collection escaped injury, speaks much for the pains bestowed by Dr. Richardson, and the indefatigable Drummond, when we know that the majority of them were collected in the brief summers of the Arctic regions; so that it was necessary, in order to make all use of the season for sailing northward, to put them hastily together in boxes or bottles of spirits, as they were captured.

As to the merit of this laborious work, and the reception that it has met with amongst entomologists, it is sufficient to observe that it has been universally allowed to be worthy of the author of the "Monographia Apum Angliæ." In making, however, this allusion, it is impossible not to notice the manner in which Mr. Kirby had kept pace with the progress of his favourite science. Any work of average merit, published in the 78th year of a man's age, would call forth remark; but here we have in the insects of the Fauna Boreali-Americana, a work so hale that it bears the stamp of being the offspring of a mind full of vigour and activity in prosecuting enquiry, and weighing diversities of opinion.

One objection has been noticed, that the names of insects being given in English, as well as in Latin, gives too much the air of its being intended for a popular work. A very

slight acquaintance with its contents soon convinces the reader that this error lies merely upon the surface.

It seems, however, unnecessary to burden nomenclature with English names, for already it is extensive enough; but in doing it, Mr. Kirby had the French and German nations as an example, for most of the scientific men of these countries give French and German appellations to their species, genera, and families.

Perhaps the most gratifying evidence of the value of the work is to be found in the fact that Harris, Leconte, Haldeman, and the principal American entomologists, constantly refer to it, and adopt its names and arrangement; a circumstance which shows that the aged author must have assiduously collected and compared references and specimens,—indeed, with a care, and to an extent hardly ever taken by entomologists, even though surrounded by public libraries, and large open collections.

The book is everywhere interspersed with generalizations at the end of the descriptions, of the utmost value to the advanced student in entomology.

The number of Insects described is:—343 Coleoptera; 3 Orthoptera; 2 Neuroptera; 2 Trichoptera; 32 Hymenoptera; 17 Hemiptera; 1 Homoptera; 32 Lepidoptera; 13 Diptera; 1 Homaloptera; 1 Aphaniptera.

One of the Coleoptera (*Trachys acuducta*) is said not to be a native of North America, but of Australia or New Holland; it is possible that it came into the collection by mistake.

There is a list given of 103 insects of the northern parts of America, described by Otho Fabricius, Curtis, Children, and Mr. Kirby, in other works.

Eight plates beautifully executed by Mr. Charles Curtis accompany the work. There is also in the beginning, a list of the authors quoted, 162 in number.

The insects were presented, in the joint names of Dr. Richardson and Mr. Kirby, to the British Museum.*

The "Fauna Boreali-Americana" formed the conclusion of Mr. Kirby's labours in connection with the press. It may not be unacceptable to the reader to have before him a list of our author's publications at various times.

* A large accession to the Catalogue of Insects of North America has been derived from the researches of Mr. George Barnston, who, about the year 1842, presented his collection to the British Museum. Mr. Adam White, in his treatise on the "Geographical Distribution of Hymenoptera in Arctic North America," has drawn up a comparative table of the Hymenopterous Insects, the comparison being made with those in the British Museum; observing that Mr. Barnston found in one spot, at Martin's Falls, 192 distinct species in the space of three months, whereas "it must be borne in mind that our British collection of Hymenoptera has been accumulating for at least thirty years,—was a favourite part of Dr. Leach's collection,—and has been made over a wide and variegated country."

	British Collection in British Museum.		Collected at Martin's Falls.
Cimbicidæ	10	....	4
Tenthredinidæ	157	....	76
Siricidæ, &c.	7	....	2
Ichneumonidæ	200	....	47
Chalcididæ	?	....	?
Chrysididæ	22	....	1
Formicidæ	11	....	7
Mutillidæ	5	....	0
Sapygidæ	2	....	0
Pompilidæ, &c.	38	....	2
Crabronidæ	57	....	16
Vespidæ	17	....	4
Apidæ	170	....	33

"A striking proof that the time has not yet come to reason correctly on the distribution of Hymenopterous insects,—at least in British North America."—Vide *Arctic Searching Expedition*, by Sir John Richardson, Vol. ii. p. 354.

In the following table I have omitted to notice "Tracts" committed to Mr. Jones for publication; many communications made to periodical works, including the entomological part of "Sowerby's Miscellany," (with the exception of the Lepidoptera); papers communicated to the "Guardian of Education;" short biographical notices of his friends in the "Christian Remembrancer;" and letters published upon the Bible Society.

1. "Descriptions of Three New Species of Hirudo, with a Note by G. Shaw."—*Linn. Trans.* ii. p. 316, 1793.
2. "A History of Three Species of Cassida."—*Linn. Trans.* iii. pp. 7—11.
3. "Letter to Mr. Marsham, containing Observations on the Insects that infested the Corn in the year 1795."—*Linn. Trans.* iii. pp. 246—249.
4. "Ammophila, a New Genus of Insects in the Class Hymenoptera, including the Sphex sabulosa of Linnæus."—*Linn. Trans.*, iv. pp. 195—212.
5. "History of Tipula Tritici and Ichneumon Tipulæ, with some Observations upon other Insects that attend the Wheat," in a Letter to Thomas Marsham, Esq., Sec. Linn. Soc.—*Linn. Trans.* iv. pp. 230—239.
6. "A Continuation of the History of Tipula Tritici," in a Letter to Thomas Marsham, Esq., Treas. Linn. Soc.—*Linn. Trans.* v. pp. 96—111.
7. "Observations upon certain Fungi which are Parasites of the Wheat."—*Linn. Trans.* v. p. 112.
8. "Some Observations upon Insects that prey upon Timber, with a short History of the Cerambyx violaceus of Linnæus."—*Linn. Trans.* v. pp. 246—260.
9. "Monographia Apum Angliæ; or, an Attempt to divide into the Natural Genera and Families such Species of the Linnean Genus Apis as have been discovered in England: with Descriptions and Observations. To which are prefixed Remarks upon the Class Hymenoptera, and a Synoptical Table of the Nomenclature of the External parts of these Insects. With plates. 2 vols. 8vo., pp. xxii. 258 and 388. Ipswich, 1802.

10. "The Genus Apion of Herbst's Natursystem considered, its Characters laid down, and many of the Species described."—*Linn. Trans.* ix. pp. 1—80.
11. "Descriptions of Seven New Species of Apion."—*Linn. Trans.* x. pp. 347—354. "Additional Observations."—Ibid. pp. 354—357.
12. "Strepsiptera, a New Order of Insects proposed; and the Characters of the Order, with those of its Genera, laid down." —*Linn. Trans.* xi. pp. 86—122.
13. "Addendum to Strepsiptera." — *Linn. Trans.* xi. pp. 233, 234.
14. "An Introduction to Entomology; or, Elements of the Natural History of Insects, with plates." (In conjunction with Mr. Spence.) 4 vols. 8vo. London, 1815, &c.

    Vol. I., London, 1815; Id., 2nd Edition, London, 1816; Id., 3rd Edition, London, 1817.

    Vol. II., London, 1817; Id., 2nd Edition, London, 1818; Id., 3rd Edition, London, 1822.

    Vols. III. and IV., London, 1826.

    Vols. I. II. III. and IV., 5th Edition, London, 1828.

    Vols. I. and II., 6th Edition, with much additional matter. London, 1843.

    Index to 4th and 5th Edition, London, 1838.
15. "A Century of Insects, including several New Genera, described from his Cabinet." — *Linn. Trans.* xii. pp. 375—453.
16. "A Description of several New Species of Insects collected in New Holland by Robert Brown, Esq., F.R.S.," &c.—*Linn. Trans.* xii. pp. 454—478.
17. "Strictures on Sir James Smith's Hypothesis respecting the Lilies of the Field of Our Saviour, and the Acanthus of Virgil." London, 1819.
18. "The Characters of Otiocerus and Anotia, two New Genera of Hemipterous Insects belonging to the Family Cicadiadæ; with a Description of several Species."—*Linn. Trans.* xiii. pp. 12—23.
19. "An Account of the Animals seen by the late Northern Expedition whilst within the Arctic Circle." London, 1821, 4to. Being a Supplement to the Appendix of Captain Parry's Voyage for the Discovery of a North-West Passage, in 1819-20. The Insects described by the Rev. W. Kirby.

20. "A Description of some Insects which appear to exemplify Mr. W. S. Mac Leay's Doctrine of Affinity and Analogy."—*Linn. Trans.* xiv. pp. 93—110; also in the *Annals of Philosophy*, New Series, 1823, Vol. iv. pp. 417—426.
21. "Some Account of a New Species of Eulophus, *Geoffroy*."—*Linn. Trans.* xiv. pp. 111—113.
22. "On Animals receiving their Nutriment from Mineral Substances."—Tilloch and Taylor, *Philos. Mag. and Journ.* Vol. lxi., 1823, Part i. pp. 3—4.
23. "Introductory Address explanatory of the Views of the Zoological Club, delivered at its foundation, November 29th, 1823."—Tilloch and Taylor, *Philos. Mag.* Vol. lxii. pp. 457—463, 1823; also in *Zool. Journ.* (No. 5, April 1825), Vol. ii. pp. 1—8.
24. "A Description of such Genera and Species of Insects alluded to in the 'Introduction to Entomology' of Messrs. Kirby and Spence, as appear not to have been before sufficiently noticed or described." Decade the First. *Linn. Trans.* xiv. pp. 563—572.
25. "Some Remarks on the Nomenclature of the Gryllina of Mac Leay, &c., with the Characters of a New Genus in that Tribe."—*Zool. Journ.* Vol. i. (No. 4, January 1825), pp. 429—432.
26. "Some Farther Remarks on the Nomenclature of Orthoptera, with a detailed Description of the Genus Scaphura.'—*Zool. Journ.* (No. 5, April, 1825), Vol. ii. pp. 9—11.
27. "A Brief Description of a Pair of Remarkable Horned Mandibles of an Insect."—*Zool. Journ.* (No. 5, April 1825), Vol. ii. p. 70.
28. "On the Structure of the Tarsus in the Tetramerous and Trimerous Coleoptera of the French Entomologists."—Tilloch and Taylor, *Philos. Mag. and Journ.*, Vol. lxv., Part i. March 1825, p. 193.
29. "A Letter from the Rev. W. Kirby in Explanation of his Remarks upon the Notice given in the 'Philosophical Magazine' of Mr. W. S. Mac Leay's paper on the Tarsi of certain Insects."—Tilloch and Taylor, *Philos. Mag.* Vol. lxv. p. 267, 1825.
30. "A Description of Two New Species of Coleopterous Insects belonging to the Genera Cremastocheilus and Priocera.'—*Zool. Journ.* (No. 8, 1826) Vol. ii. pp. 516—518.
31. "Introduction to Entomology." (In conjunction with Mr. Spence.) Vols. iii. and iv. 1826.
32. "A Description of some New Genera and Species of Petalocerous Coleoptera."—*Zool. Journ.* (No. 10), Vol. iii. pp. 145—158, 1827.

33. "A Description of some Coleopterous Insects in the Collection of the Rev. F. W. Hope, F.L.S."—*Zool. Journ.* (No. 12, 1828), Vol. iii. pp. 520—526.
34. "Some Account of the Hessian Fly."—Loudon's *Mag. of Nat. Hist.* (No. 3), Vol. i. pp. 227, 228, September, 1828.
35. "Sermons on Our Lord's Temptation, grounded upon those of the learned Bishop Andrews." London. 1829.
36. "An Outline and Description of Centrotus Bennettii and Hardwickii."—Loudon's *Mag. of Nat. Hist.* (No. 6), Vol. ii. pp. 20—22, 1829.
37. "Nidus on a Rush."—Loudon's *Mag. of Nat. Hist.* (No. 9), Vol. ii. p. 405, 1829.
38. "The Characters of Clinidium, a New Genus of Insects in the Order Coleoptera, with a Description of Clinidium Guildingii."—*Zool. Journ.* (No. 17, 1830), Vol. v. pp. 6—10.
39. "On the History, Habits, and Instincts of Animals; being Treatise VII. of the Bridgewater Treatises." London, 1835. 2 vols. 8vo. pp. 948, 17 plates. The same in Bohn's Scientific Library. 12mo. London, 1852.
40. "Fauna Boreali-Americana, or the Zoology of the Northern Parts of British North America." Part the Fourth and last—The Insects, 4to. pp. 325 and xxxix. Norwich, 1837. 8 plates, containing coloured figures of 66 of the most interesting genera and species, with details.

That Mr. Kirby was connected with several learned Societies has been already incidentally noticed. The following is, however, a more perfect list of some of the principal institutions, British and Foreign, to which he was from time to time elected:—

In 1788 the Linnean Society was established, of which Mr. Kirby was early elected a Member.

In or about the year 1807, Fellow of the Geological Society of London.

July 8th, 1808, Corresponding Member of the Society of Amateurs of Sciences and Arts at Lille.

February 20th, 1816, Member of the Friendly Society of Observers of Nature at Berlin.

March 1818, Fellow of the Royal Society.

November 15th, 1820, Member of the Imperial Society of Naturalists at Moscow.

In 1823, Member of the Meteorological Society of London; and again upon its revival in 1836.

May 8th, 1826, Member of the Zoological Society of London.

March 7th, 1832, Honorary Member of the Entomological Society of France.

May 23rd, 1832, Member of the Linnean Society of Stockholm.

November 19th, 1836, Honorary Member of the Literary and Historical Society of Quebec.

In 1837, Honorary President of the Entomological Society of London.

March 1837, Corresponding Member of the Hartford Natural History Society (Connecticut).

In addition to the foregoing list of honours, might be added the fact of many insects having derived their names from Kirby. A catalogue of these would be interesting to the entomologist, and would at once show, if such proof were necessary, the wide sphere in which he was known and venerated. A friend has kindly sent me the names of a few of the species which most readily occurred to him; others have been already incidentally noticed in this work, and many more might be easily added. Let these few, however, suffice:—

COLEOPTERA.

LAMELLICORNIA.—*Hexodon Kirbii.*—Hope. Coleopterists' Manual, p. 57. From Mauritius, a species of one of the most curious genera of Lamellicorn Beetles.

Leucothyreus Kirbianus.—Mac Leay. Horæ Entomologicæ, i. 146. From Brazil.

Biphyllocera Kirbyana.—White, in Appendix to Grey's Australia, ii. p. 462. This is a curious Beetle from King George's Sound, with pectinated lamellæ.

Hoplognathus Kirbii.—Mac Leay. Hor. Ent. i. 160. Guer. Icon. pl. 24*, fig. 10 (Areoda). From Brazil.

Chrysophora (*Chalcoplethis*) *Kirbii.*—G. R. Gray. Griffith's Animal Kingdom, Ins. pl. 46, f. 2. From Brazil. A very splendid species.

CLERIDÆ ..... *Pelonium* (*Lasiodera*) *Kirbyi.*—G. R. Gray. Grèff, A. K. Ins. i. 376, t. 48, f. 3. From Brazil. One of the finest and largest species of the family.

BUPRESTIDÆ .... *Calodema Kirbii.*—Hope. Col. Manual, 3rd Part. A species from South Australia, perhaps the finest of the family, and not unlikely to prove, like *Pyrophorus* among the *Elateridæ* (the genus containing the Fire-flies of South America and the West Indies), a light-producing *Buprestis*. M. Guérin Meneville has also named a pretty small Australian species after Kirby.

LONGICORNIA .... *Saperda Kirbyi.*—Gyllenhal. Schœnh. Syn. Ins. i. Pt. 3, p. 186. From Spain. "Dom. Gul. Kirby, Rector Barhamiæ, Monographiæ Apum Angliæ excellentissimæ, pluriumque operum Entomologicorum magni pretii, Auctor, summa laude nominandus."

Distichocera Kirbii.—Newman. Proc. Zool. Soc. of London, for March 1851. A new species of Australian Longicorn, belonging to a genus first described by Mr. Kirby in the 12th Vol. of the Linnean Transactions.

CURCULIONIDÆ.. *Rhinotia Kirbyi.*—Schœnherr. Curc. v. p. 357.

Apion Kirbyi.—Germ. Mag. iii. p. 50. A distinct species found in England, and named after the author of the illustrated Monograph of the British Species in the Linnean Transactions. It is found on the common furze, but is rare.

Haplonyx Kirbyi.—Schœnh. Curc. viii. p. 43. New Holland.

PSELAPHIDÆ ..... *Euplectus Kirbii.*—Leach. Denny's Monograph.

STAPHYLINIDÆ .. *Stenus Kirbii.*—Leach. Curtis, Brit. Ent. pl. 164.

HYMENOPTERA.

Andrena Kirbii.—Stephens. Curtis, Brit. Ent. iii. t. 129.

Kirbya.—St. Fargeau. Suite à Buff. ii. This was named after Mr. Kirby, but the genus is synonymous with *Cilissa*. See Smith's Cat. Hym. Brit. Museum, p. 73, 74.

ORTHOPTERA.

Scaphura Kirbii.—Westwood. Griff, A. K. Ins. pl. 63, f. 1. A species of Scaphura, a genus first described by Mr. Kirby in the Zoological Journal.

DIPTERA.

EPROBOSCIDEA. . . . *Oxypterum Kirbyanum.* — Leach. Wernerian Memoirs, Vol. ii. p. 563, t. 25, f. 15, 16.

Robineau des Voidy, in his "Essai sur les Mygdaires," dedicated a genus allied to *Tachina*, and perhaps only a slight section of it, to the memory of the English Entomologist,—*Kirbya*.

CHAPTER XXII.

Mr. Kirby's Diary.—Fiftieth Year at Barham.—Correspondence.—Presentation of the Barham Cabinet of Insects to the Entomological Society.—Correspondence concluded.

In the interval between the publication of the "Bridgewater Treatise" and the "Fauna Boreali-Americana," Mr. Kirby spent a few weeks upon the Continent, and made the tour of the Rhine, being the second time of leaving England, and forming the extent of his foreign travels.

The Journal which he kept upon the occasion shows the keen relish with which he still turned his attention to the incidents of the way. We must not, however, enter upon this, but proceed to make a few notes upon what may be considered his more ordinary or every-day life. These could be drawn out with great accuracy for almost every day, but I shall give, as suitable to my present purpose, only a few extracts from his diary and letters, for which purpose we must return to the year 1829:—

February 7, 1829.—Dies Saturni (7ma) obscura, vix tranquilla. Hodie mortua est, virtutum fere omnium exemplar, charissima S. Trimmer.

February 8, 1829.—Dies Solis (8va) nube obscura, tranquilla. Nox clara satis et tranquilla, sed mæsta mihi amissa mea dulcissima consobrina.

May 23, 1831.—Hodie ad Londinum, iter nobis quod Deus bonus prospere vertat.

July 19, 1831.—Hodie a Londino salvi et sani reversi sumus. Deo

O. M. summa laus sit, quod nobis omnia in bonum conversus est.

September 7, 1831. — Plures meorum coætaneorum hoc anno demortui sunt: nempe Gul. Clerke, Th. Hallum, Th. Carthew; et ego jam ætate provectus sum, itaque vigilare debeo quia mihi hora mortis ignota est.

September 18, 1831.—Ecclesia nostra nunc finita. Dominus gloria sua illam illustret, et pacem det adorantibus eum ibi. Amen.

September 19, 1831.—τα γενεθλια τα ἡμετερα..... Deus me adjuvet vitæ normam ad finem optimam melius dirigere per Dominum Jesum Christum. Amen.

In a visit to London in the year 1833, Mr. Kirby met with an event which caused him much vexation. In walking one day through the streets in a somewhat abstracted mood, he was accosted with great expression of surprise and delight by a person who seemed astonished that he was not known. Mr. Kirby shook his hand, and at the same time scanned the features of his old acquaintance, and made apology for his absence of memory; the stranger in his turn expressed regret at his own stupidity for having made a mistake in addressing the wrong person. The colloquy, however, had been sufficiently protracted to enable the rogue to deprive Mr. Kirby of a watch and chain which had been his father's, and which on this account could not be replaced by the finest chronometer in London.

The Diary thus notices the transaction :—

1833, April 4.—Hodie a Londino reversi sumus sani et salvi, quamquam amisso horologio, pro quibus omnibus bonis et malis ago Domino gratias præcipue pro reditu nostro.

1835, June 26.—Hodie finitum est opus meum per misericordiam Domini immeritam.

1835, June 27.—Hodie liber meus editus est. Deo gratias.

These few extracts must suffice to show how the events

of each day were noticed. Letters from various persons throw still further light upon the subject.

Bernard Barton to Mr. Kirby.

"Woodbridge, 1/19, 1832.

"My Dear Friend,—Our amiable and estimable young friend——, engaged with some other ladies of taste in and about town, including, I am told, some titled fair ones, has applied to me to contribute a trifle or two to a volume of original composition in poetry and prose, published for the benefit of a most respectable family in reduced circumstances. I, of course, would wish to oblige a lady fair, and as deserving, in so benevolent a project, and intend to furnish something,—perhaps two or three pieces.

"Among them I should like very much to include some verses I once addressed to thee, if upon looking them over they are or can by a little polish be rendered fit for a volume coming out under such auspices. But of these, as well as many other trifles of mine, I have kept no copy.

"Should it be in thy power to furnish me with one, I shall feel obliged by thy doing so, if thou hast no objection to such a slight tribute of respect from a Poet to an Entomologist appearing in print, which perhaps thou mayst not in a volume so select, and which is likely to find readers in a circle somewhat above our ordinary Ladies' Pocket Books. 'Fit audience let me find, though far,' was the aspiration of the noblest of our Bards, and if I might presume to borrow it on any occasion, it would be in giving even limited publicity to a personal tribute of my own. From my imperfect recollection of the verses, however, they are not strictly personal, but rather addressed to thee in a character which can hardly receive added publicity, certainly no higher fame from rhymes of mine—I mean as a naturalist.

"One chief motive which I have for wishing to send them to Mrs. W. is, that I think she will receive them gladly for their subject's sake, and be more disposed to look with an indulgent eye on an address to an old friend of her father, than on a production of more classical pretension,—if, indeed, I could so far forget my own simpler line of authorship as to aim at anything of the latter class.

"Still, if a shadow of objection should exist on thy part to have them appear in print, by no means send them. I wrote them originally to record the pleasure thy scientific researches had afforded me,

and should be sorry by any publication of them to give thee cause to repent having been a theme of Poet's song.....

"With best respects and every good wish in return for thy own,

"Thy assured and affectionate Friend,

"BERNARD BARTON."

When the bard of Woodbridge penned this letter, he was probably unconscious of the theme that was opening for his poetic genius to exercise itself upon. This was the fiftieth year of Mr. Kirby's incumbency at Barham; during that period many friends had passed away, but those who occupied their places were not backward in testifying their esteem. Tokens of regard and friendship varying in intrinsic value, but differing little in the spirit with which they were proffered, marked the day of Jubilee. The occasion was not lost by Bernard Barton, who contributed the following lines to the offerings of the day:—

TO THE REV. WM. KIRBY,
ON HIS ATTAINING THE FIFTIETH YEAR
OF HIS INCUMBENCY.

He whom the virtues of a temperate prime
Bless with an age exempt from scorn or crime,
An age that melts with unperceiv'd decay,
And glides in modest innocence away,
Whose peaceful day benevolence endears,
Whose night congratulating conscience cheers,
The general favourite as the general friend,
Such age as his—and who could wish its end!

I.

Under the old Mosaic Law,
Although its sterner tone
Had much to waken fear and awe,
Some softening traits were shown;
Such was its "*Year of Jubilee*"
Which set the hapless Bonds-man free,

At Mercy's gentle voice,
Forgave all debts—and through the land
Bade Israel's sons at God's command
With grateful hearts rejoice.

II.

What marvel, then, if in this day
Of more unclouded light,
Hearts which in thankfulness obey
The Gospel's purer rite,
Should gladly welcome aught that brings,
As if with "healing on its wings,"
An hour of blameless glee,
Wherein with pleasure innocent
Nature's best feelings may have vent
To keep their Jubilee.

III.

E'en such a memorable hour,
My Friend, is now thine own;—
Nor is its most appealing power
Felt by thyself alone:—
Those who the Christian Pastor love
Or Life's more private worth approve,
Which lends to home its bliss,
Those who in studying Nature's Laws
Delight to trace its First Great Cause,
May hail an hour like this!

IV.

'Tis something—in this heartless age
When most affect display,
When selfish schemes too much engage
Our spirits by their sway,
To meet with *One* who, well content,
His blameless, useful life hath spent
In some sequestered spot,
There humbly, gratefully to trace
The truths of Nature and of grace,
Nor wish'd to change his lot.

V.

Most wise hath been thy choice—and well
Its wisdom is repaid;
For happiness most loves to dwell
In Life's secluded shade:
Ambition's throb, and envy's sigh
Are there least likely to supply
Cause for the chast'ning rod;
While there, on virtue's noblest plan,
May humble worth do good to man,
And glorify his God.

VI.

When Burleigh left the peaceful home
Where pious Gilpin dwelt,
And turn'd to trace its lonely dome,
Its blessedness he felt!
He ask'd—with eyes that tears might dim,
"What could a mitre give to him
Who does his duty there?"
Well might he own the Pastor's choice
Had more the spirit to rejoice
Than Courts could hope to share.

VII.

Then, since a lot so truly blest
Thy quiet home endears,
Proved by the true and sterling test
Of *Fifty peaceful years!*
Oh! what can all who most admire
Thy worth, or most thy good desire
More fitly crave for thee?
Than that thou mayst through life partake
Those well-earn'd blessings which now wake
The song of Jubilee!

BERNARD BARTON.

Woodbridge, 6 Mo. 2nd, 1832.

In 1833, Mr. Kirby attended the meeting of the British

Association held at Cambridge. Of the proceedings there he wrote a full account to his friend Sutton,—too long for insertion. Amongst other notes the following occurs:—

"I went thither [to the Senate House], but the people at the door said they could not let me in without a ticket. I then happened to catch the eye of Peacock of Trinity, one of the Committee, by whose means I got in. He invited me to dine with the members of the Association in the Hall of Trinity: about 400 dined there..... After tea I went to the schools, and attended a meeting of the Natural History section, where Mr. Ogilby lectured upon ruminating animals, and others upon other subjects..... At 8 on Thursday morning, Mr. Hasted and I went to the Nat. Philos. section, and saw some experiments with respect to sound and vibrations, which were very interesting. After breakfast to the Natural History section, and heard Mr. Scoresby read some very interesting anecdotes with respect to whales. I called on the Master of Caius, and was afterwards invited to dine in the Hall: my friend B. Chapman was there. .....I saw one person who was my contemporary, and that was Tom Sharpe, who used to dress my hair."

The following year Mr. Kirby contemplated attending the meeting of the Association held at Edinburgh, as appears from a letter addressed to his friend Professor Hooker:—

Mr. Kirby to Professor Hooker.

"Barham, August 30th, 1834.

"My Dear Hooker,—Having heard of a private conveyance to Edinburgh yesterday at Ipswich, in order to be in time for it I have to take coach for that place by nine this morning, which must be my apology for a very brief epistle. The accompanying specimen was promised to your son* when here by a sister of Mrs. Kirby's—Mrs. R. Kedington. I had fully intended being one of the party assem-

* Dr. Joseph Dalton Hooker, distinguished as a naturalist by his voyage to the Antarctic Regions under Capt. Sir James C. Ross, and also by his mission to the Eastern Himalayan Mountains and Thibet.

bling at Edinburgh the week after next, but 'Fata obstant.' I must stay at home, as I have promised His Royal Highness the Duke of Sussex and Lord Farnborough that I will do *tout mon possible* to have my Bridgewater Treatise out before the year expires: I have printed the first volume, and shall transmit MS. next week to begin the second. You will see our common friend Spence, and his sons. . . . . Mr. Deck, of Cambridge, a very intelligent man, a chemist and druggist of that place, and much in request among naturalists, will deliver this.

"Mrs. Kirby unites in kind regards to Mrs. Hooker and your father, and also to your son, with whom we were greatly pleased.

"I am, my Dear Hooker,

"Yours very affectionately,

"Wm. Kirby."

Col. Sykes to Mr. Kirby.

"47, Albion Street, Hyde Park,

"29th Dec. 1834.

"My Dear Sir,—I have only delayed replying to your letter received yesterday until I could consult our friend Hope with respect to some of your queries. In the first place, I regret that the manner in which I expressed myself should have occasioned you the trouble of writing a long letter when you can have but little time to spare. What I purposed saying was the following:—'Those cells near the centre contained very minute eggs; cells farther removed had eggs more enlarged, and also larvæ; and the remotest cells or chambers contained pupæ: in the last cells only did I find winged ants.'

"I originally looked upon the economy of the Tree-Ant as connecting it very closely with the White-Ant, and I have not had any reason since to alter my opinion. I found the queen enclosed in a large royal cell, with the characters of sole ovipositor; and the community was made up of workers furnished with a sting, but without wings, and males furnished with wings,—corresponding to the queen bee of the hive, the drones and neuters, and corresponding also to the queen White Ant, the workers and the *soldiers*, the latter, in my opinion, being males; for I never yet, in my numerous examinations of the cells of the queen of the White Ant, found a joint male sovereign shut up with her, as described by Smeathmann. Mr. Hope has provisionally made the Tree Ant a *Myrmica*, but thinks that, at a future period, it will be found the type of a new genus; and, in

the expectation that it will prove novel and interesting, I have done myself the honour of dedicating it to you.* I am not aware that the ant affects any particular tree, as the two nests I examined were found on the *Carissa Carandas*, a large shrub, and the *Mangifera Indica* . . . . .

"With respect to your other queries, the large Black-Ant, which manifested such extraordinary instinct in getting at the sweets by falling from the *wall* upon the table, Hope considers new to science, and proposes to call it *Formica indefessa*†.

* *Myrmica Kirbii*, Sykes, is referred to in the Bridgewater Treatise, Vol. ii. p. 340; and is also figured, pl. xi. C, fig. 1—3.

† This interesting account is thus given by Colonel Sykes:—"When resident at Poonah, the dessert, consisting of fruit, cakes, and various preserves, always remained upon a small side-table in a verandah of the dining-room. To guard against inroads, the legs of the table were immersed in four basins filled with water; but, as the strait was very narrow,—from an inch to an inch and a half,—and the sweets very tempting, they appear at length to have braved all risks, to have committed themselves to the deep, and to have scrambled across the channel, and to have reached the object of their desires, for hundreds were found revelling in enjoyment. Daily vengeance was executed upon them without lessening their numbers: at last the legs of the table were painted, just above the water, with a circle of turpentine. This at first seemed to prove an effectual barrier, and for some days the sweets were unmolested, after which they were again attacked by these resolute plunderers. But how they got at them seemed totally unaccountable, till Colonel Sykes, who often passed the table, was surprised to see an ant drop from the wall, about a foot above the table, upon the cloth that covers it,—another and another succeeded; so that, though the turpentine and the distance from the wall appeared effectual barriers, still the resources of the animal, when determined to carry its point, were not exhausted, and by ascending the wall to a certain height, with a slight effort against it, it managed to land in safety." Col. Sykes asks, "Is this instinct?" I should answer, No. The animal's appetite is greatly excited; its scent probably informs it where it must seek the object of its desire; it first attempts the nearest road; when this is barricaded, it naturally ascends the walls near which the table was placed, and so succeeds by casting itself down,—all the while under the guidance of its senses."—Bridgewater Treatise, Vol. ii. p. 342.

"The large-headed ant, which was found to have provided stores of grass seeds for consumption during the monsoon, is also new, and is called *Atta providens.*

"Short scientific descriptions of the above ants have been read at the Entomological Society; but as the description of the *Myrmica Kirbii* was made from drawings, which, although executed under the microscope with great care, may yet be imperfect, it has been found necessary to put forth the characters with some little reserve.

"Yours very truly,

"W. H. SYKES."

The Rev. F. W. Hope to Mr. Kirby.

"Feb. 5th, 1835,

37, Upper Seymour St., Portman Sq., London.

"My Dear Sir,—The Entomological Society has done me the honour to elect me its President for the present year. A motion was proposed and carried that the anniversary is to be celebrated with a dinner; the day is postponed entirely on your account, as a general feeling was expressed that you should be present. If you will be kind enough to inform me the earliest period you are likely to be in town, and will name one or two days which are suited to your convenience, they shall be attended to, and arrangements made accordingly. I am sure, my good friend, that you will willingly accede to the wishes of the Society; and I flatter myself you will kindly give me your able support on that occasion. There is also another request I have to make, which has, or will be, made by Mr. Spence, and that is, that you will be kind enough, when you visit London, to allow some of our artists to mould your bust: the portrait will be copied as nearly as possible, and one sitting, perhaps, to correct any inaccuracies, will be sufficient.

"Believe me, &c.,

"Yours very sincerely,

"F. W. HOPE."

Sir John Franklin to Mr. Kirby.

"21, Bedford Place, Russell Square,

"4th Jan. 1836.

"My Dear Sir,—I have the pleasure of forwarding you a book

with which I was entrusted by Mrs. T———, of Dingle, in Ireland, a benevolent lady whose philanthropy is well known in that part. I take it for granted that she has written to you.

"I have to request of you a favour, on the part of my friend Capt. Beaufort, the Hydrographer of the Admiralty, who must be well known to you by fame, if not personally. He has a nephew serving in Northern India, who has always had a fondness for the collecting of insects, but without any well-grounded knowledge of the science or study of Entomology. He finds himself surrounded with varieties of butterflies, insects, &c., of which he can find no description, and has therefore so much excitement to prosecute the study that he has written to Capt. Beaufort, begging him to send him a supply of the best elementary, and such other works connected with the study of this science, as are well recommended, that he can procure. Capt. Beaufort is most anxious that his nephew should be furnished with all the works that may be necessary to foster the spirit of laudable inquiry,—knowing that his nephew, who is an *Edgeworth*, will prosecute his studies to the utmost of his powers, and be also serviceable to the masters in the science of Entomology by adding all he can to their collections . . . . . I am sure we shall both feel greatly obliged on receiving any communication from such high authority as your own on this subject, and particularly for any hints you may be good enough to give as to the collecting and preserving the specimens. Our friend Dr. Richardson has nearly completed his publication of the Fishes; and I suppose it will appear early this spring. I hope the "Fauna Boreali-Americana" will be rendered complete by the addition of the Entomology: then, indeed, it may be considered the most perfect appendix to any modern voyage of discovery. I beg my very kind regards to Mrs. Kirby, and that you will believe me to be ever,

"My Dear Sir,

"Most faithfully yours,

"JOHN FRANKLIN."

I have already noticed that Mr. Kirby had been consulted on the formation of a Society to be devoted exclusively to Entomology, and that the project at that time was abandoned,—the Zoological Club in some measure affording a medium of communication to those who wished to gain or impart instruction upon different branches of the study.

It was not, however, sufficient to meet the wishes, or, indeed, the wants, of the rapidly increasing number of Entomologists.

In the year 1833, the Entomological Society was fairly established.

Mr. Kirby saw that something of the kind was very desirable, and became a member; not, however, without some little hesitation, fearing that the interests of the Linnean Society, which he had so much at heart, should in any way be compromised.

These doubts were, however, removed by the assurances of his friends, and Mr. Kirby signified his intention of becoming a member of the projected Society, regretting, however, that circumstances would prevent his being "an active member for the present." One of the first steps taken by the infant Society was to request Mr. Kirby to accept the office of Honorary President, which request was communicated to him by Mr. Gray.

Mr. Kirby soon found how groundless had been his fears, and was now anxious to do something for a Society which had in so marked a manner sought his countenance and protection in the commencement of its proceedings. He lacked, however, opportunity to do anything in the way of preparation of papers, such as he had contributed to the "Transactions of the Linnean Society;" and his clerical duties stood in the way of his showing his good will by frequent personal attendance at their meetings: but a generous heart is seldom long without devising a way of expressing its sympathy when ordinary means of doing it are not afforded.

Mr. Kirby possessed in his cabinet of insects an invaluable treasure; these had not lost one particle of their charms for him,—indeed, in some respects their worth daily increased; for, independently of every other value, they recalled days gone by, and so many pleasing reminiscences

of those who had been his warm and attached friends. But he saw the time was coming when, in his hands, they would be of little avail to science. He saw, also, a spot pointed out where they would be serviceable to those who had the bodily vigour, as well as the will and desire, to prosecute research in the same direction in which he had travelled, but was now warned that he could proceed but little farther. To the Entomological Society, therefore, he committed his treasure, as an earnest of the sincerity of his desire to promote the interests of the science, and with a wish that they might assist others in tracking the road which had been so fruitful of delight and pleasure to himself; and with a still more generous hope that, mounting on the steps which he had gained, they might still farther advance, and enjoy a yet brighter and a clearer view of this lovely portion of Creation's field.

The cabinet presented to the Society had been in the process of formation for more than forty-eight years; it had been enriched by contributions from Gyllenhal, Latreille, Peck, Marsham, Mac Leay, Harris, Guilding, Vigors, Dale, Curtis, Stephens, and a host of other friends, most of whom are referred to in letters already given. Many insects had been bought at sales, and of dealers in such commodities, for sums which would astonish collectors of the present day: represented, therefore, even in this way, it was valuable. But this is not the basis upon which we must attempt to estimate the price that was placed upon Mr. Kirby's collection when it reached its destination; it was regarded chiefly from the connection which it had with its donor—a memento than which it would have been difficult to have found one more striking or more appropriate, surpassing any sum that could have been offered, any portrait that could have been delineated, any book that could have been written. It is in the nature of an unprinted

library upon the science, bearing the mark and stamp, as it does, of Mr. Kirby's own hand, and of his own arrangement.

There are the self-same insects which he had described and referred to in his numerous publications; there are the self-same structures exposed to view upon which he had done so much towards bringing the science to its present state of perfection. But it is needless to enlarge upon this,—it is almost out of my province, when others before me have done it so well.

The following able letter, attested by the seal of the Society (an impression of the *Stylops Kirbii*), shows the manner in which Mr. Kirby's present was received:—

To the Rev. William Kirby, M.A., F.R.S, Honorary President of the Entomological Society of London, &c. &c.

"Reverend Sir,—We the President, Council, and Members, of the Entomological Society of London, desire to return our most grateful thanks for the very liberal donation of your entire collection of Entomology. We are fully sensible of its value, and cannot but express our unfeigned pleasure that the gift is unfettered by any restrictions, evincing, as it does, a firm reliance on the character and stability of the Entomological Society.

"The value of an authentic cabinet gives increased importance to our Institution; and in this gift we have the immediate realization of an object which we could only expect would result from many years' labour. We testify our admiration of a generous act, which is strongly characteristic of your well-known devotion to science; and at the same time we beg to express our respect and regard for the individual who has raised Entomology in this country to its present dignified station. Instructed, animated, and encouraged by your example and success, tyros from our ranks will follow so bright and steady a light, and tread the path to fame as contributors to the advancement of human knowledge and public utility. Long, very

long, may we continue to benefit by your judgment and experience.

"Signed by the President and thirty members.

"The Seal of the Entomological Society of London hereto affixed, on behalf of the other Members of the Society—

(*L. S.*)

By order of the Council. Jno. O. Westwood, Secretary."

The following letter was received upon Mr. Kirby's being elected Corresponding Member of the Hartford Natural History Society, in 1837 :—

"New York, March 7th, 1837.

"Rev. and Dear Sir,—I avail myself of this opportunity to express the gratification I have derived from the perusal of your work on Entomology. Although well acquainted with it by reputation, as my avocations had not directed my attention to the study of the insect kingdom, it had never been my good fortune to meet with these volumes until the present winter, when a friend placed in my hands the two first, which he had by accident obtained. So much delighted was I with these that I immediately ordered a set from England, with the intention to put it before my children as an incentive to the cultivation of the department of natural science which it so pleasingly illustrates. The views held out in the 'Introduction,' in regard to the influence of Natural History on the youthful mind, are precisely those which I had entertained and acted upon in the education of my family; but the want of works which, while sufficiently scientific and elementary for those *entering* upon the pursuit of Natural History, are at the same time clothed in a garb which will attract, in place of repelling, the youthful mind, had proved a serious obstacle to the prosecution of my plans. A little work on Ornithology, by Stanley, and an elementary treatise on Conchology, by Capt. Brown, which last, though dry, I am enabled to enliven by illustrations from Nature, have been the best works I could find as initiatory for young pupils. Smellie's 'Philosophy of Natural History,' a delightful work, as also White's 'Natural History of Selborne,' although calculated to encourage a taste for studies which refine while they exalt,

are not capable of affording those facilities for practical purposes which would enable the student to classify and arrange their objects, so as to have before him, in the results of his labours, inducements for farther pursuit of science. Your admirable work affords us the aid we so much need; and as my children have the advantage of a residence in the country during one half of the year, I anticipate great pleasure and benefit to them, under the guidance of an intelligent tutor, from the employment of your 'Introduction' during the approaching summer. Should it be our good fortune to make any collections which may prove interesting to you, in what way shall they be transmitted?

"With great respect,

"I am, Rev. and Dear Sir,

"Your most obedient servant,

"J. SMYTH ROGERS."

Mr. Kirby to Mr. Denny.

"Barham, January 2nd, 1838.

"My Dear Sir,—Upon looking at the date of your letter, I am quite ashamed to think how long it has remained without an answer. At the time it was written I was residing at Hastings in Sussex, on account of a rheumatic complaint, or rather, neuralgia.....

"I wish I could give you any useful information on the subject of the work in which you are at this time engaged, but have never paid much attention to the Epizoica, or Parasita of Latreille, nor did I ever see Nitzsch's work, and know it only from Mr. Children's quotation of it. You are aware that my cabinet is now in the Museum of the Entomological Society.

"With respect to Monographs, it seems if there is any writer that has treated with ability of the tribe we have taken in hand, that the work should be inscribed to him. Mr. W. S. Mac Leay is a man of great eminence in entomology, and there can be no impropriety in your dedicating your work to him.....

"You say 'belonging to the genera *Pediculus* of Linnæus, and *Nirmus* of Latreille,'—they properly belong to the order *Parasita* of Latreille.....I think you may fairly include species living on animals domesticated in Britain, though not originally natives.

"Wishing you all success,

"I am, Dear Sir,

"Yours very truly,

"WM. KIRBY."

The Reverend James Tate to Mr. Kirby.*

"Hutton, near Brentwood, July 21st, 1838.

"Reverend Sir,—The best excuse in my power to make for thus intruding, unknown, upon your leisure, is to tell briefly and plainly the cause which led to it.

"One day last week I was engaged in reading with great interest your Bridgewater Treatise; and having been much delighted with the just censure so ably and acutely passed on La Place and Lamarck, in the prefatory pages, I was endeavouring to recollect also, without books, what I had once read of Paley's remarks in refutation of similar Atheism, speciously spun out by Darwin. Just at the time when employed in such thoughts, a very pious, learned, and altogether excellent clergyman, having been at a clerical meeting in this neighbourhood (Mr. Walker, of Purleigh, near Maldon), called here at the Rectory; and to him, amongst other things, I told what had recently been the subject of my meditation, and how much I was gratified with these pages in particular here alluded to. Mr. Walker immediately exclaimed that he too had experienced the same impressions, and told me that he had embodied his feeling in verse, expressive of gratitude and admiration generally, on account of the spirit which had guided your pen. 'If,' said he, 'poetry be, according to Lavater, language of the heart, then my verses may be so called.'

"The impulse of my mind was at the moment to declare, that as the best reward of an author lay in the approbation of congenial and approving readers,—he should send to you his *Verses testimonial:* nay more, if he disliked the task, I would undertake to do it for him. Such is my story, and here are the verses.

"Believe me, with truest respect,

"Faithfully yours,

"JAMES TATE."

TO THE REVEREND WILLIAM KIRBY, RECTOR OF BARHAM, ON HIS BRIDGEWATER TREATISE.

Not for its learning, venerated Sir,
As men call learning, do I so prefer
Thy interesting Treatise, late put forth,
But for its far superior pious worth.

* Late Canon Residentiary of St. Paul's.

Though plentifully stored with gems of mind,
Such as delight the many of mankind,
It yields a warmer and more genial glow,
Which speaks thy heart above the things below;
Speaks to this heart of mine, that loves the man
Who, in thy spirit, undertakes to scan
Creation's works for the Creator's name,
Not for mere science, or a scholar's fame.
Thus, in thy book, I recognition view
Of rev'rence to the Holy Scriptures due;
These hast thou claim'd as man's best guide to see
The wisdom, goodness, pow'r of Deity;
These as the nucleus of nature's light,
The key to knowledge of the things of sight.
'Twas thus thy genius could rise and swell,
'Twas thus thou learn'dst of God to write so well.
And shall not works like thine thy name adorn?
They "follow" thee, that thousands yet unborn
May seek the track those works shall leave behind,
And see more clearly the Almighty mind;
May through deep waters trace the paths of God,
And read his name on rocks thy feet have trod;
May read it 'lumined by these Bethlehem rays,
That kindled heretofore thy prayer and praise.
Champion of wisdom! in her lovelier form,
Not as she shakes the mountains, rules the storm,
Wings the dread lightnings, balances with death
Earth's living hosts, supplies new life and breath;
Nor only as she tells how much is spar'd
To thankless man of what, unfall'n, he shared;
Well hast thou pleaded truths like these, and more,
But better still hast taught us to explore
The Bible, heav'nly wisdom's choicest mine,
Teeming with wealth, exhaustless and divine:
A field of treasure for the mind and heart,
Oh how more rich than nature, science, art.
Here would'st thou show us how by thought to gain
Truths without which our other thoughts are vain,
But grac'd with which, "fair science," truly fair,
Not vainly pants for her own native air,
Springs into life immortal, lives indeed;
Borrows from Heav'n all help for time of need;

Lures to a fount where mortals thirst no more,
Points to a realm for souls in spirit poor,
Where smiles a home, to faith's far seeing eyes,
Not made with hands, eternal in the skies!
Be strong, dear Sir, meanwhile to rise or fall,
"The Way, the Truth, the Life"—thy all in all.
May but His spirit in our hearts abide,
Rend'ring his Word our comfort, strength, and guide;
So shall we soon from sin's deceiving load,
Rise to full likeness of th' Incarnate God;
Nor longer darkly, as in mirrors here,
Shall see Him as he He is for ever, ever near.

Mr. Kirby to Mr. Walker.

"Barham, July 28th, 1838.

"My Dear Sir,—I cannot help flattering myself that I am indebted to a descendant of a reverend friend, long ago admitted to the blessed society of a happier world, and when on earth a bright and shining light of our Church, for a very flattering and elegant testimonial in verse of his favourable opinion of my Bridgewater Treatise. The friend I allude to is the Rev. Wm. Jones, of Nayland, whose daughter married Mr. Walker, of Gestingthorpe, in Essex: but whether this conjecture be correct or not, your verses so edifying, as well as beautiful, will always be highly prized by me, and I hope I shall endeavour to act up to the pious sentiments they so well express. You are aware of the Latin proverb—Omne ignotum pro magnifico est,—therefore I beg you will not form too high an idea of me, and then you will not be disappointed when we meet, which I trust we shall, should your avocations ever call you this way.

"I am, Dear Sir,
"Your obliged and faithful Servant,
"Wm. Kirby."

The Rev. R. F. Walker to Mr. Kirby.

"Purleigh, Maldon, Essex, Aug. 8th, 1838.

"My Dear Sir,—I did not so easily expect that my humble lines, though prompted by sincere and grateful feeling, would ever come to your notice.....

"I pretend to nothing more than being one of those numerous and delighted readers for whose special use such treatises are penned.... Though I am not the man of Gestingthorpe, I have long been familiar with his name, or rather with that of his lady, through a nearly twenty years' intimacy with her respected relatives, and those of the Reverend William Jones, of Nayland,—namely, the excellent family of the late Mr. Bridges, of Maldon. O yes, the name of the good Mr. Jones, of Nayland, has for a much longer period been endeared to me; for by his writings I found, even as a youth at College, something in his spirit that harmoniously affected mine. Neither even then was it a weak attraction for me, that he had been so intimate with Bishop Horne, his friend. When, therefore, I saw his name standing as it does in your Bridgewater Treatise, it sparkled again in my thoughts, and showed me still more of yourself. A most zealous bishop of America (Philander Chase) acknowledged himself everlastingly beholden to a little work of that excellent friend of yours, and when he was in England, he could not but visit Nayland, and register his gratitude in one of the Church books of that place.

"You have quoted *Omne ignotum pro magnifico:* but I bless God that I am not obliged to predicate with regard to myself *omne magnificum pro ignoto.* Your own work must be reckoned among my helps in this way; in all which I cannot but recognize those ways of Providence which form a subject boundlessly various, for adoring and grateful praise. In this way I have also since been materially helped by Mr. Mac Culloch's three posthumous volumes on the Divine Attributes; however wrong he may be, as he surely is, in not seeing that Christian doctrine can, like the air we breathe, be salutary even to the young; and this purely because, like the air we breathe, it was intended to be so, and is adapted for it accordingly. The little imbibes the little, and the great the much, and both equally and alike for the health of each.

"I have a few pages, which, if I may shortly publish, I shall be happy to have an opportunity of presenting a copy of them to you. Their title is, 'The four first Chapters of Genesis, exhibited with occasional re-translation, paraphrase, and notes, in reference especially to Geology, the Fall, and Primitive Sacrifice.' In the meantime permit me to request your acceptance of the Life of Bengel.....

"I am, my Dear Sir,

"&c., &c.,

"R. F. WALKER."

Mr. Kirby to Mr. Walker.

"Barham, August 13th, 1838.

"My Dear Sir,—Your very kind and friendly letter demands my warmest acknowledgments, especially your intention of sending me your intended publication on the four first Chapters of Genesis, which I make no doubt will place in a clearer light those great doctrines, physical and metaphysical, concerning which the wisdom of the wise has been so often bewildered, from so little attention having been paid to what has been delivered concerning them in those important chapters of the Word of God. 'Thy word is a lamp unto my feet, and a light unto my path;' with His lamp in our hand, we cannot wander far into the mazes of error. . . . .

"An American physician, Dr. Sherwood, has studied the nervous system, with a view to prescribe for diseases to which it is subject,—these, he thinks, are occasioned by an irregular action of the electro-galvanic forces, which are inherent in the animal system, causing all its motions and functions. These forces he denominates repulsion and attraction, and without their mutual co-operation there can be no motion of animate or inanimate matter. Whilst they are reciprocally balanced, the whole mechanism of the human frame moves with regularity and retains its health. Irregular action of these forces produces disease in the organs, limbs, &c. and other structures in all the fearful variety belonging to the class already named.

"I must now explain to you my motive for sending this statement; I have been subject for two years to a painful disease, which physicians call neuralgia, and which none that I have consulted, though of the first eminence, have been able to cure. I was advised last year to try Hastings, and while staying there, I one day was thinking over my own case, and wrote the following speculations concerning what I conceived might be its origin:—

"'Medical men seem to me not altogether at home in nervous complaints. There seem to me to be *three* systems at work in the human body, between which there is a striking analogy,— viz., the system of the brain and nerves; the system of the lungs and air-vessels; and the system of the heart and blood-vessels. The first is acted upon by the nervous fluid or power, whatever it is (Qu. the electro-galvanic forces), the second by the air, and the third by heat.

"'With respect to the last, we know that the blood goes by the arteries from the heart in one state, and returns, having effected its purpose, by veins in another, which may be called its negative and

positive states. A similar observation holds good of the air vessels,—the air which the lungs receive, from the atmosphere is imparted to the blood, which it oxygenates when it is in a positive state, and when it has discharged this office it is returned to the atmosphere in a negative state: if it be thus with the two systems of respiration and circulation, may it not be the same with respect to the nervous? May not the nervous fluid, which at the bidding of the will darts instantaneously through all the ramifications and windings of the perplexed labyrinths of nervous filaments, which penetrate and impart an impulse to every muscle of our frame,—may not this fluid go forth from the brain in one state, and return in another? This would indicate positive and negative forces, equivalent to the American doctor's galvanic attraction and repulsion. If I knew where to come at the doctor's prescriptions, I should like much to try them. I was induced to trouble you with these speculations, not solely to point out to you this coincidence between the Englishman and the American, but because I thought, when treating of the creation of man and the animal kingdom, if you had not already been struck by the same idea, it might set your mind at work upon the subject, and lead to some interesting discussion.'

"I am, &c.,

"Wm. Kirby."

Dr. Sutton to Mr. Kirby.

"May 15th, 1839.

"My Dear Kirby,—Your last found me not till Monday evening, when I returned from Cambridge, whither I had gone in the middle of last week, for the purpose of showing my attachment to the old house, yclept St. John's, in case of any opposition to our candidate Mr. Blunt, a most unexceptionable man, for Lady Margaret's Divinity Chair. James Brown, Thomas Jack, my kinswoman, and myself, took the whole coach to ourselves..... On Wednesday, the new Master was elected, and on the following day the son of our old friend Crick was elected Senior Fellow, and President of the College; also in full senate, that excellent man and good divine, Mr. Blunt, was chosen Lady Margaret's Professor. I being the Senior Doctor present was chosen—what?—scrutator of the votes; for though there was no opponent, it was thought needful that the electors should deliver in their votes in writing. We were, of course, well treated

in College on those two days. On Monday we returned home; I was quite exhilirated at meeting so many old College friends, all in highest glee. I was accommodated with lodgings in the old house, in the best part of it, viz., the late Master's part—there were four more, all quondam fellows, inmated with me; very pleasant we were altogether.....

"Yours affectionately,

"CHARLES SUTTON."

CHAPTER XXIII.

Church preferment.—Mr. Kirby's performance of his ministerial duties.—Arrangement of his time; habits and customs.—Barham parsonage and garden.—Personal description.

It has been a subject of not unfrequent remark, that it was singular that, in the distribution of ecclesiastical honours and emoluments, which are frequently conferred as the reward of merit, none ever fell to the share of Mr. Kirby. His own retiring disposition, and the marked appearance of content and happiness which he bore about him, might in some measure account for this: but, whatever may have been the cause, so it was, that he never entered upon any preferment except the living of Barham. It is true, he was appointed a Rural Dean by the Bishop of Norwich,* but this office he soon resigned from infirmity of age. It is, moreover, right to add, that this benevolent prelate desired to mark his appreciation of Mr. Kirby's merit by offering him the first Honorary Canonry in Norwich Cathedral, as appears by the following letter:—

"Palace, Norwich, Sept. 17, 1842.

"My Dear Sir,—Having now the legal power of appointing two Honorary Canons annually (until the number is filled up) to our Cathedral, I take an early opportunity of requesting your acceptance of one of them. I feel, however, some little hesitation, on the

* Dr Stanley.

grounds of your not considering yourself equal to the task of attending and reading yourself in. Should this be the case, I beg you will without scruple decline it, as, however anxious I am to pay a compliment to one so well meriting it, I should be very unwilling to give you trouble by your accepting it.

"I remain,

"Yours faithfully,

"E. NORWICH."

It was not a little remarkable that even this honorary appointment, which was very gratefully accepted by Mr. Kirby, as he had always had a wish to be connected with a cathedral, was never confirmed. It so happened that the Bishop of Norwich was informed that he had not the privilege which he imagined, and he waited till the question should be settled, before he wrote to Mr. Kirby. The delay being long, the whole circumstance passed from his mind until some years after, when, on my meeting his Lordship at Cambridge, he told me he had debated about offering a Canonry to Mr. Kirby, but had decided not to do so, as it would only be an empty compliment from his advanced age. Upon my remarking that Mr. Kirby had been offered the appointment long ago, the Bishop assured me it could not be; and with some difficulty it was that his letter was recalled to his recollection. His kind and generous feelings were excited, and much mortification was evinced at the disappointment his explanation must cause his friend. I ventured to assure him that Mr. Kirby regarded more the kindness which before had prompted the offer, than the honour attached to the office itself, and that it was needless to disturb his mind upon the subject. And thus Mr. Kirby enjoyed in imagination the compliment which was intended, and frequently mentioned the kindness of the Bishop in thinking of him in conferring this honourable distinction.

One other piece of preferment was offered to Mr. Kirby, which, while it possessed more substantial advantage, had

little that was complimentary connected with it. A gentleman, living at a distance, about the year 184—, offered to present him to the living of———, which could have been easily and legally held with Barham. The letter in which this offer was conveyed was of such a nature as to lead Mr. Kirby to suppose that his works had attracted the favourable notice of the liberal patron; he accordingly, and with much gratification, penned his letter of acceptance. It so happened, however, that a friend, somewhat behind the scenes, saw that a more profitable sale of a living suddenly vacated was no doubt the motive which induced this offer, and delicately suggested that there were few men upwards of eighty years of age who could be found to hold the living; whereupon, as the patron was a rich man, and there seemed nothing to render the traffic defensible, the letter was altered, and, notwithstanding the disappointment, the proffered benefice was rejected.

Until the year 1838, Mr. Kirby performed the duties of his church and parish without the assistance of a curate, with the exception of a short period, when, during a prolonged absence from home, he offered the cure, as a title for Holy Orders, to the Rev. John M. Rodwell. This gentleman has kindly communicated to me the nature and principal bearing of the advice which he received from his rector on entering upon his solemn duties. "Mr. Kirby pressed upon me," he says, "the importance of not hastily committing myself to any of the conflicting schools of theology; particularly cautioning me against Calvinism, and against yielding to what he termed a young man's appetency for any stereotyped system which might offer the attraction of seeming 'totus teres atque rotundus.' He remarked that a knowledge of human nature, gained in ministerial intercourse, would correct and modify theological views better than anything else, and that a deacon had better

wait contentedly for lessons in the school of experience." Mr. Rodwell continues:—"In conversation one day, on the subject of waiting for *experience*, I recollect that I mentioned an interpretation of εὐπερίστατος ἁμαρτία, in the Hebrews, quoted by Bishop Jeremy Taylor from Chrysostom,* as pleasing me much: he said, 'You study my parish, or your own heart, for five years, and you will not think so then.' He used to instance the necessity he had found of modifying his earlier views on prophecy in proof of the advantage of suspending one's judgment."

As I observed before, the assistance which Mr. Rodwell afforded was merely temporary. Mr. Kirby soon resumed his own duties, which he continued until the year 1838, when he kindly offered to me his curacy, as a title for Holy Orders,—an honour attended with many advantages, for which I never can be sufficiently grateful. I received from my venerable friend much sound advice, and many judicious hints, as to my course of reading. Among the books which he recommended especially to my notice were his old favourites, "The Scholar Armed," and "Potter on Church Government;" and, as an encouragement to the study of Hebrew, he presented me with all his elementary books. Although I retained the curacy but a short time, yet the kind welcome which I received at Barham Parsonage

* Vide Jer. Taylor's Works, Vol. vi. p. 254, Heber's edit. 1839. The passage in Jer. Taylor is, "The sin which doth so easily beset us: so we read the words of the Apostle; but St. Chrysostom's rendition of them is better, for the word εὐπερίστατος is a perfect (*i. e.* entire) passive, and cannot signify the strength and irresistibility of sin upon us, but quite the contrary: it signifies the sin that is so easily avoided, as they that understand that language know very well." The allusion is to St. Chrysostom, Hom. 28, p. 572. St. Chrysostom gives both senses, but prefers the passive one. The true sense seems to be neither of these, but (on the authority of Hesychius) "constantly liable to happen."

gave me abundant opportunity of becoming intimately acquainted with the habits and ways of my inestimable friend during the closing period of his life. The benevolence and simplicity which were exhibited in them attracted in so great a degree the admiration of those who witnessed them, that I do not doubt that some account of them will prove interesting, trifling as some of the points adverted to, when taken separately, may appear.

The first which naturally calls for attention is the manner in which Mr. Kirby performed his ministerial duties in the offices of the Church. Sufficient has been said in this volume to prove that it was his earnest desire that his ministrations might be to the edification of his flock; and to those who had a desire to have their hearts animated with devotional feeling, no external circumstance could be better calculated to awaken this, than the deeply solemn manner in which the services were performed at Barham. No doubt, at the time when this observation was made, the venerable appearance, the snow-white hair, and the trembling frame, added to the effect that was produced; but these were only accidental circumstances: the whole heart and soul appeared to be engaged, whilst the varied tones manifested the nicest appreciation of the beauties to be found in the Psalms and Lessons. It was in the Liturgical part of the service that Mr. Kirby afforded a pattern so eminently worthy of imitation,—not that his manner was less earnest in his preaching, or that he at all lightly regarded this ordinance; but it must be acknowledged that his sermons were occasionally (though by no means habitually so) above the comprehension of the majority of his hearers. They were carefully prepared, and written in an easy unaffected style; but the subjects selected were frequently such as to require more learning to enter into them than is usually met with in an agricultural parish.

His discourses, however, differed widely from those of the merely moral school—too common at the time in which he commenced his ministry. The atonement was never obscured by the prominence given to virtue; neither was the fall of man ever lost sight of. He delighted to expatiate upon the exaltation of Our Lord: so much so, indeed, that the consideration of the sublime matters connected with the fulfilment of His offices would sometimes lead him to forget that his hearers had not had the education necessary to enable them to pursue the same train of thought. When his sermons were confined to more simple subjects,—as a parable, or a miracle, or a Christian duty,—then the attention was effectually awakened by his engaging manner, as well as by his persuasive and convincing argument. There were two practices connected with the occasional services which, at that time, differed at Barham from those adopted in the churches in the neighbourhood: the baptismal service was invariably performed in its proper place, —viz. after the Second Lesson; and the marriage ceremony was performed in the body of the church, the service being concluded at the communion table. These customs Mr. Kirby found at Barham when he went there, and believed them never to have varied.

Sunday at Barham Parsonage was always a day of cheerfulness; there was nothing to cast a shade or gloom upon it; it differed from all other days, and was stamped with a mark peculiar to itself: this, however, was not the badge of a slavish yoke, but the stamp of a cheerful dedication. Entomology, notwithstanding the connection it ever had with religion in his mind, and the extent to which it was interwoven in his sermons, was never pursued in any way whatever on this day of rest. There was danger, in his view, of its engrossing the mind; and, however innocently, or even profitably, the eye might wander over the treasures

of his drawers, he considered that there was something due in the way of example towards the members of his household, which he would not withhold.

The arrangement of his time was with Mr. Kirby a matter of forethought and consideration. The following may be taken as the division ordinarily adopted at the time when he pursued entomology with the greatest vigour :—

The time before breakfast was devoted to reading portions of Scripture in Greek or Hebrew. After breakfast, one of the Fathers until noon, with a classical author on alternate days : this was followed by exercise until an early dinner. The afternoon was devoted to Natural History, and the evening to miscellaneous reading, correspondence, &c. &c. Wednesday and Friday were devoted to systematic visitation in his parish.

These rules were observed with great accuracy for a very long period of his life : latterly his custom was to read the New Testament in Greek after breakfast (which he always did aloud), and it was rarely that this was neglected.

It is by no means an uncommon circumstance to find that men who have acquired great celebrity have abridged the hours of sleep : this was not the case with Mr. Kirby ; his hours were observed with great regularity, and his habit was to rise early and retire at a reasonable hour to rest. He never encroached upon the period of repose, which, by experience, he found essential to the well-being of mind and body. There are, indeed, to this some notable exceptions to be made ; for more than one entomologist can tell of Mr. Kirby's zeal and energy in pursuit of his science by night,—not, however, by the light of the midnight oil, but with that of a common lantern, visiting, at some distance from the Parsonage, the oak woods, to ascertain, if he could, the proceedings of the insect world ; more especially being curious to know whether the *Formica rufa* really

carried on its operations by night. Upon this point, accompanied by Mr. Spence and Mr. John Curtis, he was fully and entirely satisfied, as he had the gratification of witnessing their labours after the hour of midnight.

Neither did he, in pursuit of knowledge, shut himself out from recreation, or from society; for in the exercise of hospitality he delighted, and was never happier than when he had his friends around him: it was by no means necessary that they should have the same tastes with himself in order for him to find pleasure in them. When in the social circle, social qualities were all he looked for,—these were sure to win his affection and regard.

Mr. Kirby, as has been before observed, was naturally rather silent in company than otherwise; but his silence was never of such a character as to cast a gloom upon those around him: no one ever felt the slightest awe from being in the presence of one of such extensive information on so many branches of literature; a happy smile and a cheerful expression placed every one at ease.

Those who visited him without any knowledge of him but that conveyed in his writings, were sometimes disappointed at not hearing him enter more freely into conversation when his favourite topics were introduced; at the same time, with his agreeable and unaffected manners, and his readiness to impart knowledge when questions were directly put to him, they could not fail to be pleased and gratified. In adding another name to the list of learned men who were silent in company, I would not have the cause appear to be the same as that which has been assigned to more than one of them. Addison, as we are told by Steele, "could converse with humour more exquisite and delightful than any other man ever possessed;" and yet Pope says, "that before strangers he preserved his dignity by a stiff silence." And of Dryden it has been thought, "that he did not offer his conversation because he expected it to be

solicited, and that he retired from a cold reception, not submissive, but indignant, with such reverence for his own greatness as made him unwilling to expose it to neglect or violation."* Mr. Kirby's silence proceeded in part from a natural cautiousness, which made him weigh well before he gave an opinion, or hazarded a conjecture; but in a great degree, also, from his unfeigned humility, which always prevented his assuming a position which could in any way look like taking the part of a leader: he was keenly alive to the fact, from whatever cause it proceeded, and more than once lamented it. In an entry in a diary of 1836, he says:—"I often wish that I could converse with that readiness that I see in others upon common-place subjects, and keep up the ball in my turn,—but it is not in me: those that best know me will, I hope, make allowance for me."

When he was appealed to, or when he saw others at fault, he was always ready to come to their assistance, and rarely failed, from his well-stored memory, to throw light on the subject under discussion. When drawn into conversation, there was great clearness as well as elegance in his mode of expression; his language was well chosen, and his sentences had the accuracy of finished paragraphs. He was always ready with an apt quotation, and found no difficulty in repeating long passages from the Septuagint, or Greek Testament, or from classic authors, with whose writings he kept up an acquaintance through life. About three months before his death, the conversation with Mr. Rodwell mentioned above led him to refer to the beginning of Genesis, the first twelve verses of which Mr. Kirby quoted accurately in Hebrew. At about the same time he also aptly quoted Anacreon's ode addressed to the grasshopper—Μακαρίζομέν σε, τεττιξ, κ.τ.λ.—which had always been a great favourite with him.

* Johnson's "Lives of the Poets."

Of a cheerful disposition, the wit and humour of others afforded him amusement and pleasure, and not unfrequently, when once called from his natural reserve, he would himself supply matter for mirth: even in his own musing, his humour would sometimes come forth and show itself, as in the following instance, related to me by the same gentleman. Mr. Rodwell observes:—"When walking together (in the year 1832) I suddenly missed Mr. Kirby, but soon after heard him, on the other side of the hedge, addressing a fine large struggling black beetle which he had routed up, in the words of Trygæus in the Pax—'ἡσυχος, ἡσυχος, ἡρεμα κανθων.' "There," said he, "this fellow does not know that I have misapplied my Greek; for instead of my riding him, he is going to ride me:" whereupon the beetle was duly secured in the interior of the shovel hat, and carried home for a private post-mortem."

True and genuine politeness was inseparable from Mr. Kirby; it was with him no adventitious ornament, but an essential and characteristic part of his nature.

His friendships, once formed, were firm and lasting; and, though he was the farthest from entertaining an evil thought of his neighbour, when he saw a fault in his friend which might lead to his detriment or injury, he would readily and frankly come forward and give him warning. He thought no trouble too great to serve those who sought his assistance, but would without hesitation decline an office the duties of which he felt he was not likely to be able to perform: thus he would sometimes accept the office of sponsor* in baptism; at other times, at

* A letter, preserved by one of his first god-children, received at school, and which he has carefully treasured, shows how much he thought of the responsibilities of the office:—

"Barham, March 11th, 1808.

"Dear Kirby,—I have had it in my intention to write to you

the risk of offending, he would refuse. His nearest friends were requested not to name him as their executor, "as he was not a man of business:" notwithstanding this, the office frequently devolved upon him.

Although neither a man of business, in the usual acceptation of the word, nor yet one conversant with the ways of the world, Mr. Kirby was nevertheless a safe person to consult, especially where common sense could decide a question. This caused him often to be consulted by his friends,

some time as your godfather. It has given me great pleasure to observe that you are attentive to your learning and improvement: this I hope and trust you will continue to be, for the days of youth, when they are past, are lost for ever..... But my daily wish and prayer for you is, not only that you may become a useful member of society in this world, but also be an inheritor of the kingdom of heaven: this is the principal reason for which God Almighty sent you into the world, and therefore this you should always bear in your mind. You know by experience that all men die; and you have, from your earliest years, been rightly taught to believe in the resurrection of the dead, and life everlasting. The righteous shall live for ever in happiness, and the wicked be eternally miserable. You, my dear Kirby, of course wish to be of the number of those that are eternally happy; but then you must remember that, in order to be so, you must learn betimes to get the better of your own self. There are many and very strong temptations in the world to evil; we ourselves, by nature, are born in sin, and the children of wrath, as the catechism teaches you; and therefore, if we do not deny ourselves, are more inclined to evil than to good, and the Devil is always seeking whom he can find off their guard, and devour. This should make you think of what you do, and ask whether what you wish to do is agreeable to God; and if you find that you are tempted to do anything that you know is wrong, you must not trust to your own strength, but pray God to help you with His Holy Spirit, for Jesus Christ's sake; and when you are sensible that you have done wrong, you should make haste to ask God to forgive you through Christ, and do so no more.....

"Believe me,

"Your affectionate Godfather,

"WM. KIRBY."

both far and near, upon points which a casual observer would have thought him the last person in the world likely to have been conversant with.

One of the rules by which Mr. Kirby arrived at his conclusions is given in the following words, extracted from a letter addressed to a friend, giving his opinion upon a point which had been referred to him:—"It seems to me, even when flowing from this amiable and sacred motive, that to deviate from the path which has the sanction of custom, when principle is not concerned, gives an air of affectation to actions which really spring from the best feelings of our nature."

Mr. Kirby possessed, as we have already noticed, a remarkable power of fixing his undivided attention upon any subject which was before him, and with great facility withdrawing it completely, and fixing it with an equal degree of intensity upon any other subject, however different in its nature. Nor was this confined merely to matters of study; it was his habit from early life to take a given proposition, and think upon it for a certain fixed time, forcing his mind back to it whenever it was disposed to wander, raising up to himself imaginary opponents bringing forward arguments against him, and thus viewing the matter in all its bearings. This power never forsook him, for in later life, when he was prevented taking his usual walk, he would employ an hour in this way, walking up and down his room. His favourite course was to meditate upon some one of his absent friends, and when the time was expired he would occasionally describe what had passed before him respecting them. It was impossible to please him more than to speak of his early friends; and when all other efforts failed to draw him into conversation, the very name of Bacon or of Gwyn would arouse him: of the former he would relate many of his old-fashioned ways, and of the style in which he lived, not

forgetting his old cumbrous coach, with its four long-tailed black horses, which always drew their master to Barham Church, and frequently took the curate back to dine at Shrubland. Upon Mr. Gwyn's kindness and drollery he would expatiate, with many expressions of grateful recollection.

The name of the elder Mac Leay acted upon him as a charm, and so aroused him, that he would enter upon conversation connected with the country he was in, or any topic which naturally arose out of his personal history. When his mind was once carried back to these earlier scenes, he invariably neglected to take his usual sleep after dinner, and retained his animation throughout the evening.

But to see him in company with his friend Sutton was to see him in the very height of happiness and enjoyment. The latter was a man remarkable for his lively conversation; but it was not this that constituted Mr. Kirby's happiness, for with him the Doctor was usually rather silent,—this partly proceeded from their both being latterly slightly deaf —it was a genuine feeling of pleasure at having the object of his regard present with him, that constituted Mr. Kirby's happiness on these occasions. Until a very short time before his death, Mr. Kirby never went to bed without pausing before a picture of his mother which hung upon the landing; and frequently would he be heard soliloquizing upon her many good qualities, and giving vent to feelings of affection and tender regard for her memory.

Those who enjoyed a personal acquaintance with Mr. Kirby, while they recall many pleasing traits of this kind, will probably never forget the manner in which he performed the duties of a host to all who came to his house.

His constant rule was, so long as his strength permitted it, to be the first to be stirring in the morning; he would himself call his guests, and tell them "it was

time to rise," and so begin the day with a polite attention and a welcome—"an old custom," he would say, "which I think a very proper one."

Old customs met one in every proceeding of the day; some possibly had been abused, and therefore had been by others laid aside; but in Mr. Kirby's keeping they could not help recommending themselves, and calling forth something like a regret that they had been abandoned: especially would this remark apply to his custom at the dinner-table. The cloth removed, invariably the health of every person present was drunk with an expression of feeling and good will, and the names of some absent friends, Dr. Sutton and Mr. Spence always included, were added as claimants for the best wishes of the party assembled. The toast of "Church and King" and of "The Royal Family" was in due time honoured. The leading statesmen of Mr. Kirby's own political views were classed together; but, that nothing like bigotry might appear, or offence be given to any one, the addition was always made, "The Bishop of the Diocese, and the best of the Whigs:" this, he would say with good humour, he hoped would include all his friends. It was in vain some of those most intimate with him would, to provoke his answer, urge that toasts were out of fashion, and regarded only as so many excuses for additional potations: his answer would be,—"Every one can do as he likes; though he does not take wine, the expression of good feeling is always agreeable." And so truly it was, when it came with such an unaffected sincerity as it did from him.

The evening was invariably spent in the social circle; Mr. Kirby would frequently read aloud, part of the time, some work of general interest, and when his eyes failed him, rather than be idle, he would occupy himself with netting. The day closed with reading the greater part of the Evening Service, and giving religious instruction to

his household. Selections from the Book of Common Prayer, with occasional variations, constituted the morning and evening service of the family.

Mr. Kirby was very fond of walking, and could endure much fatigue in this his favourite exercise; it suited well his general taste, affording him opportunity for a scrutinizing search for anything that might, from its peculiarity, be worthy of investigation. He was never a good horseman, but nevertheless occasionally rode a quiet pony, and did not altogether relinquish the practice until he was eighty years of age, when he was advised by his friends that it was not safe for him to continue it.

At one time Mr. Kirby kept bees, and was an accurate observer of their habits: when or why he gave them up I do not know. Latterly his only domesticated pets were his cats, of which he was exceedingly fond: they were also associated in his mind with older times, his father having been fond of them, and having received the self-same breed, from which the Barham cats came, from his grandfather. They were certainly an unusually fine breed, and enjoyed great indulgence. If their claws pierced his silk stockings, for which his adherence to the custom of the last century afforded considerable facilities, even though the rough token of friendship occurred again and again, yet it never produced more than a playful remonstrance. While engaged in writing, *Frolic* would often play with his pen from her favourite post, his shoulder; but even this would not disturb his tranquillity.

The garden at Barham Parsonage had many associations pleasing to his mind. The large pond in the centre was filled with fish, including some very fine gold fish, which came every morning in fine weather to be fed. At the end of this pond stood a large weeping-willow, originally

brought in the pocket of his friend Sutton's great-coat; the age of the tree was measured by the life of the donor,* for, worn out, rotten and hollow in the trunk, it fell the same year that the worthy Doctor died.

The lofty elms which stood by the side upon the grass-plot were planted by Mr. Bacon; they had long been taken possession of by the rooks, who were never to be disturbed upon any account, and in the spring time were watched with a jealous care. It is true, that one year, when it was represented that they were materially injuring the trees, and were become too numerous, leave was reluctantly given to have a few destroyed; but, as if it were a warning never again to repeat the attack, the whole household were taken ill in a manner most unaccountable: it was supposed that the rooks, which had been made into a pie, had partaken of some poison laid by a neighbouring farmer. The superstitious saw a yet heavier penalty threatened some few years after; for late one night strange noises were heard, but could not be traced. At length, to the amazement of the inmates of the parlour, a rook fluttered through the fire-place: the exact cause of the catastrophe was never ascertained.

* This willow was planted at Barham about the year 1800; the species (*Salix Babylonica*) was introduced into this country in the beginning of the last century. The usual belief as to its introduction is, that some cuttings were enclosed in a present from Spain to Lady Suffolk, who came over with George II., and that Pope, being in company when the covering was taken off, observed that there were appearances of vegetation, and had them planted in his garden. From one of these sprung the famous tree which was felled in 1801. But it is more probable that the weeping-willow was introduced by a Mr. Vernon, a Turkey merchant, who brought it with him from the banks of the Euphrates, and planted it at Twickenham Park, where Peter Collinson saw it growing in 1743.

On the east side of the house there was a fine pear-tree, one of the very first of the sort introduced into this country, and named, by Professor Van Mons of Brussels, the originator of it, after Mr. Spence, *Buerrĕ Spence.** This tree, though very luxuriant to the eye, was a very shy bearer, its blossoms very rarely coming to maturity; and, from want of proper ripening, the fruit it did bear was never tasted in perfection. Mr. Kirby sent a tree to Dr. Sutton at Norwich, which, trained as an espalier, bore abundant crops of fruit, deserving the encomiums bestowed upon it by Professor Van Mons; but whether that at Barham had produced any fruit or not, the tree would have been prized for the sake of the friend whose name it bore.

On either side of the gravel walks were British plants collected in various parts of the country, intermixed with the commoner kinds of border-flowers: almost every one of these had a tale belonging to itself or to its donor. The pond, too, had received similar attentions: here grew choice reeds and rushes, the elegant buckbean, and the bright *Ranunculus Lingua*,—pulled up by a young relation, who received a present on the spot, in hopes that it might stimulate him to farther botanical pursuits. The plant was always pointed out to him whenever he came to the

* This pear appears to excite some curiosity in the horticultural world. Mr. Downing, in his work on Fruit-trees, says—"It is probable there may be a true Buerré Spence, since Dr. Van Mons claims to have raised one, and once pronounced it the finest of all pears; but it is certain that neither the pomologists of England nor America have yet been able to obtain it correct. Buerré Diel, Urbaniste, de Capiaumont, and one or two others of very inferior quality, have been imported into this country for B. Spence. We have, however, received a tree from Mr. Rivers, the English nurseryman, which may prove correct."—"The Fruits and Fruit-Trees of America," &c. by A. J. Downing. New York: Wiley and Putnam. 1847.

Parsonage, and inquiry made as to whether botany yet possessed any charms for him. But the great beauty and glory of the garden, although, unfortunately, badly situated, must not be forgotten,—one certainly amongst the finest of the Catalpas to be seen in this country: it was raised from seed by Mr. Kirby in his own hot-bed. Upon one and all of these plants he was ever ready to expatiate, calling the attention of the young or uninitiated to their hidden beauties.

In the interior of the house there was nothing striking; yet, notwithstanding the departure of the rich cabinet of insects, it still retained, from its shells and fossils, and a small collection of miscellaneous animal and vegetable specimens, marks of the taste of its occupier.

The library contained about 3000 volumes, chiefly works devoted to Theology and Natural History, many of them, especially of the latter, being presentation copies from his friends.

To old ways and customs Mr. Kirby was, as has been already observed, much attached, though willing enough to conform to modern ways when others were concerned. In his own personal dress and habits,—at least later in life,—he thought it unnecessary to make any change: hence it was that he always retained the shovel hat, which made him pass among strangers as Dr. Kirby; his coat, also, was of an antiquated fashion, with a collar cut straight in front, and large flaps over the ample pockets. The whole dress, combined with his venerable countenance, frequently led to his being taken for a dignitary of the Church.

The personal appearance of Mr. Kirby in early life was probably not remarkable; he was of middle stature, broad-shouldered, and strongly framed; his hair was light in colour and soft in texture, originally powdered, and tied behind, as appears by a miniature taken whilst at College,—

from which an engraving is presented to the reader,—and which is still in possession of his family. He had a fine intellectual head, and, without being square or heavy, the forehead was broad; the ears were unusually large; the eyes were blue, remarkably small, and rather deeply set. He used to say that they were the subject of some mirth to his young companions: they appeared, perhaps, smaller, from the rest of the features being on a scale rather large than otherwise; but when animated, they were bright and sparkling, and gave a peculiar lustre and brilliancy to his countenance.

From this description the reader will infer that there was nothing very attractive in the features of Mr. Kirby; and perhaps *not*, when they were regarded separately; yet it was impossible to look at him and not admit that his countenance was most attractive. The expression was mildness, gentleness, and benevolence itself; it had far more than the charm of symmetry: it was a true index of the heart and mind that gave it expression. An admirable portrait was painted by Henry Howard, Esq., R.A., about the year 1819, and from which an engraving was afterwards published by Mr. Thomas Lupton.

Mr. Kirby, at various times, had suffered much from lumbago, which gave him, rather early in life, a drooping position. His head and hands were palsied, especially the latter, I think, for more than thirty years. In general, he enjoyed excellent health, and even in his last years his principal ailment was neuralgia, which affected his side: it was consequent upon an attack of shingles.

CHAPTER XXIV.

Death of Mr. Kirby.—Ipswich Museum.—Conclusion.

When Mr. Kirby had attained the age of fourscore years he was in the possession of all his faculties, the hearing alone being slightly affected; glasses of very moderate power were sufficient to compensate for any dimness of sight. With his faculties he also retained his energy of character, and enjoyed the society of his friends at home, or made short excursions, and not unfrequently attended the meetings of the Linnean, Entomological, and other Societies.

By one of those inscrutable dispensations of Providence, a great and sudden change swept over the scene—his beloved wife, upon whom, humanly speaking, his very existence depended, was almost without a warning snatched away. In the year 1844, Mrs. Kirby died. The feelings of those friends who gathered round the bereaved mourner were divided between sorrow for the loss of the departed, and anxiety and apprehension for the survivor.. The wind was tempered to the shorn lamb, for the suddenness of the blow at times deadened him, and prevented him from viewing the void before him. At other times his lamentations were poured forth with a poignant bitterness, such as the inward peace from the true fountain of comfort could alone

have mitigated. The sympathies of a host of friends, and their just expressions of respect for the worth of his departed wife, were not the least effectual of the means used to restore him to a calm and tranquil state.

Neither by this, nor by his former marriage, had Mr. Kirby any children; so that he was now in a position truly forlorn.

The justly merited language of praise might be taken for that of flattery, were I to speak of that relative who, with devoted attention, and uncompromising self-denial, administered to Mr. Kirby's comfort during the remainder of his days. Any language of approbation which could be used, must sink into insignificance, when compared with the satisfaction experienced from having been placed in a position to be so eminently useful, and from being enabled to accomplish what others had the will to enter upon, but not the ability to perform.

It was not to be wondered at that a stroke so severe should have had an injurious effect upon Mr. Kirby. It fell, however, upon his mind rather than upon his body, and for a short time, though he retained his power of comprehension, his memory greatly failed him. It was not to be expected that at his advanced age he should have recovered in this respect; it is, however, remarkable, that notwithstanding the weakening of his bodily frame, his mind regained much of that vigour which it had before the calamity fell upon him. Once again he was able to enjoy the society of his friends, and even to resume his duty in the church, confining himself however to reading the Prayers, and to the administration of the Holy Communion.

In an early page of this volume, allusion was made to Mr. Kirby's wish of seeing a museum established in the town of Ipswich, and to his having made an effort for that purpose. More than fifty years passed away, and it had not

fallen within his power to accomplish his desire. Reference to his letter to Dr. Smith* serves as a mark by which to estimate the advance that has been made in this country in the cultivation of a taste for natural science, and also redounds to the honour of those who have so successfully carried out an undertaking hitherto cherished, but without avail, by one possessing the energy and perseverance of Mr. Kirby. Time had laid his hand upon the venerable naturalist, and caused him to withdraw from public life, but he was not on this account forgotten; no sooner was a Museum projected at Ipswich, than Mr. Kirby was pointed out as one who, by sanctioning the use of his time-honoured name, would give a weight and dignity which few institutions of the kind had enjoyed at their first establishment.† When called upon by the active secretary of the committee to beg that he would accept the office of President, after minutely enquiring into the precise nature of the project, and being told that the main object of the institution was to promote a taste for natural history among the lower classes, his countenance brightened, and with great warmth and animation, he exclaimed to Mr. Ransome,—"This is just what I have long desired to see, and I trust you will receive every encouragement. I wish I were able to help you more than I can do, but I will do all I can." It was not Mr. Kirby's habit to make complimentary speeches; he always intended all that he said. Among other tests of his sincerity was a request that he would sit for his portrait, that it might be placed in the Museum, as that of the first President; to this request, though necessarily attended with at least imaginary inconvenience to a man

* Vide page 171.

† This Institution was established in December 1847.

of his advanced age, he with great good humour assented. The artist,* whilst he faithfully delineated the features, laboured under difficulty in catching an intellectual expression of countenance; for unless Mr. Kirby's mind was actively engaged in thought, his features were apt to be relaxed; this conveyed the idea of a mind more enfeebled than it really was. The picture, however, is valuable, as it conveys that sweet simplicity which once had been blended with deep contemplation; and now, when the latter was enfeebled, remained in all its beauty and integrity.

When the day for the public opening of the Museum was fixed, with more than usual determination Mr. Kirby signified his intention of being present. The advice of his friends, that it was not prudent for him to encounter the fatigue and excitement of a public meeting, were of no avail —so earnestly was he bent upon showing his hearty concurrence in the establishment of a Museum.

The Bishop of Norwich† took the chair upon the occasion, and Mr. Kirby, the venerable President, occupied a seat upon his right hand: he evinced great interest in the opening address, as well as in the report of the Secretary; an expression of delight was manifested when that part of the report was read which announced that "the institution was believed to be the first established in Britain, for the especial purpose of promoting the study of Natural History among the working classes:" indeed, throughout the whole of the proceedings, whenever allusion was made to this subject, he signified by a subdued expression of applause his cordial approbation.

None who were present on the occasion can ever forget

* Mr. F. H. Bischoff. An engraving was made from this portrait by Mr. J. H. Maguire.

† Dr. Stanley.

his rising to second one of the resolutions; a task assigned to him, that he might not feel it incumbent upon him to address the meeting: so heartily, however, did he enter into the whole scheme, and so anxious was he to give vent to his feelings in the same strain which he had in his writings ever adopted, that he made the attempt, and said,—"These cases that you see before you are filled with the works of God,—He made them all,—He is great,—He is wise,—He is good." The effort proved too severe,—the mind had been strained to the highest pitch,—his whole conception had been embodied in these few short sentences, and no power remained to descend to any matter subordinate to the great truth to which he desired to give utterance. Mr. Kirby could proceed no farther, and at the suggestion of a friend resumed his seat. After a momentary and affecting pause, the worthy Bishop, with that promptness which was so peculiarly characteristic, rose and said,—"This resolution has been proposed, and seconded with more than words by the Reverend and excellent Mr. Kirby; his silence gives a double force to the seconding the resolution, and I trust the few words he did speak, pregnant with good feeling, pregnant with devotion, overflowing with religion, will never be forgotten by those who heard them."

At a later period of the proceedings, the Bishop of Norwich, in terms of eulogy, proposed a vote of thanks to their venerable President for his attendance; when he turned to Mr. Kirby, and addressed him personally. The latter, with unaffected grace, rose and stood in a posture of humility and respect, while he listened to the words of enthusiastic praise, and received the most hearty good wishes for his happiness in that eternal state to which in the course of nature he was approaching. Mr. Kirby resumed his seat, and after a short pause in a scene most affecting, he rose again to express his acknowledgment:—"I beg to return

my sincere thanks for the kind notice your Lordship has been pleased to bestow upon me; I am a poor old man. I look forward with trust and hope. It cannot be long before I shall go, and I trust that I shall be happy. May God bless you all! May you all have the same hope when you die, that I hope to have! God bless you all."

When the celebrated Boerhaave parted on his death-bed with his friend and former pupil, Linnæus, he addressed him in these impressive words:—"I have lived my time, and my days are at an end. I have done everything that was in my power. May God protect thee, with whom this duty remains! What the world required of me it has got; but of thee it expects much more. Farewell, my dear Linnæus!"

Had Mr. Kirby, in the vigour of his life, made selection of the manner in which he would take leave of his favourite pursuit, it is impossible to conceive any opportunity more congenial to his feelings than the one afforded him on this occasion, where he committed to many a rising genius the wondrous structures before them, not as objects of mere curiosity, or even of utility, but as the works which reflected the glory of God Omnipotent,—all wise,—all good.

Mr. Kirby passed the remainder of his days in the retirement of his own parsonage. Infirmities slowly but gradually increased upon him. In the spring of 1850, there were symptoms that the thread of life was nearly spun: For some weeks he was confined to his bed-room, and though suffering at times acute pain, his cheerful habit never forsook him. His favourite topic of conversation was the many blessings he had enjoyed through life, especially in having been allowed to remain so many years in a spot in every way so well suited to his taste.

If I have delineated at all faithfully Mr. Kirby's character through life, it is almost superfluous to add that he

was not forsaken, or left destitute, in the hour of need and trial; his memory had failed him much, but as his connection with the world was gradually waning, so his hope seemed to dawn with rays daily and hourly brightening. The greater part of his time was spent in ejaculations for mercy, and ascriptions of praise to the Holy Trinity.

His thoughts seemed riveted, as doubtless they were, by a power unseen, on the termination of his journey through the valley of death.

One favourite ejaculation was,—"Thou turnest man to destruction; again thou sayest, come again ye children of men." Then, with astonishing energy, he would utter such sentences as these, repeating them over and over again:—The Lord reigneth—He is King for evermore—Sing praises unto our King—God is the King of all the earth—God reigneth over the heathen—God sitteth upon the throne of His holiness—Glory be to the Father, and to the Son, and to the Holy Ghost.

On the 4th of July, he calmly and peacefully fell asleep.

The funeral, according to instructions given to his executors, was, as to preparations, plain, and strictly private. The good feeling and love of his parishioners prompted them to be present, and many came spontaneously from a distance, and attended the solemn service at the church of Barham.

The remains of Mr. Kirby were interred in the centre of the chancel; a plain slab marks his resting-place, with an inscription, placed under that to his wives, worded according to his own directions:—

ALSO OF THE ABOVE WILLIAM KIRBY, M.A.
WHO WAS RESIDENT MINISTER OF THIS PARISH
SIXTY-EIGHT YEARS.
HE DIED JULY 4TH, 1850,
AGED 90 YEARS.

It may not happen to many to enjoy a fame so widely spread as that which belonged to Mr. Kirby,—but yet the path by which he journeyed is open to every one—his learning brought him fame, but the amiable disposition which under God's assistance he cultivated, brought him far more than fame,—love, which passed not away with him, but clings closely to his very name, and delights to dwell upon his memory. "The fear of the Lord is the beginning of wisdom, and the knowledge of the Holy is understanding." Building upon this foundation by God's grace, he erected a superstructure which procured for him in this world happiness and peace, and inspired him with a lively hope, through the merits of his Redeemer, of entering upon a state of eternal bliss, where those attributes of God which it had been his delight to trace as in a glass darkly here, would be revealed in all the brightness and perfection of their glory.

THE END.

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